Pro-face

by Schneider Electric

Touch Operator Interface

GP4000 SERIES

visibility

www.proface.com

GP4000 SERIES

The New Pro-face Standard

Enhanced Visibility

All models employ 65,535-color TFT LCDs with enhanced backlight brightness control. Crisp screens improve monitoring quality and safer operation.

Mobile Remote Monitoring

Remotely monitor large-sized or long-distance applications, large process systems, or multiple machines on a manufacturing site on an easy-to carry iPhone, iPad, iPod touch, Android smartphone or Android tablet.

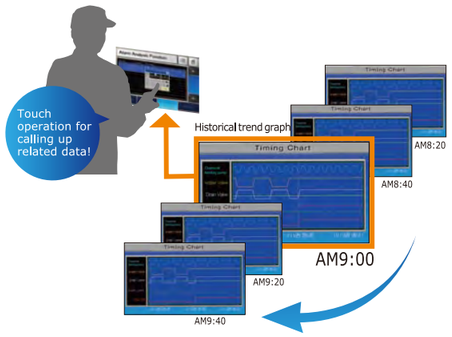
Multiple Standards support a variety of Applications

Coated components and compliance with a variety of international standards enable use in a diverse range of environments.

CCS Ship Classification is also supported.

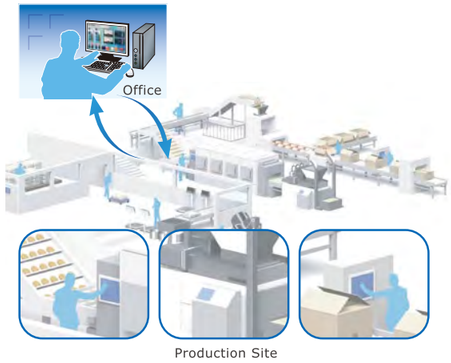
Easy Troubleshooting

Alarm Analysis Function gives you timely understanding of error causes on site. With only a few clicks for configuration, you can set alarm analysis screens with logged status data of the alarm-related device.



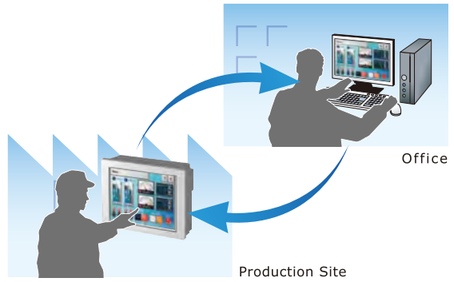
Remote Data Collection and Management

A data management system, built with Pro-Server EX software for production quality and efficiency through HMI units installed on production machines can be simply and cost-efficiently built with standard PC software, such as Microsoft Office and SQL.



Remote Monitoring

The Remote Monitoring software, GP-Viewer EX, allows you to monitor HMI screens installed on the production site from a Windows PC in a remote location.



For further information, visit our website.
http://www.pro-face.com/product/hmi/gp4000.html

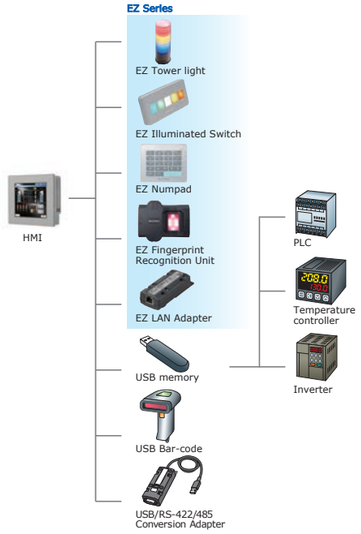
Lineup

Standard Model

	12.1" (AC 100-240V / DC 24V)	10.4" (AC 100-240V / DC 24V)	7.5" (DC 24V)	5.7" (DC 24V)	3.5" (DC 24V)
	GP-4601T / GP-4603T / GP-4621T (Isolated SIO model)	GP-4501T / GP-4503T / GP-4521T (Isolated SIO model)	GP-4401T	GP-4301T / GP-4303T (Isolated SIO model)	GP-4201T / GP-4203T (Isolated COM SIO model)
	Color variation	Color variation	Color variation	Color variation	Color variation
Display (Resolution)	65,536-color TFT (SVGA 800 x 600 pixels)	65,536-color TFT (VGA 640 x 480 pixels)	65,536-color TFT (VGA 640 x 480 pixels)	65,536-color TFT (QVGA 320 x 240 pixels)	
Touch Panel Type	Analog or Matrix (Support Two-Point Touch)(GP-4621T,GP-4521T is Analog only)		Analog		
Memory	32MB (Application), SRAM320KB (Backup for HMI), SRAM64KB (Backup for Control)		32MB (Application), SRAM320KB (Backup for HMI), SRAM64KB (Backup for Control)	16MB (Application), SRAM320KB (Backup for HMI), SRAM64KB (Backup for Control)	
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)		x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)		
SIO	RS-232C×1, RS-422/485×1		RS-232C×1, RS-422/485×1		RS-232C/422/485×1
Expansion Unit	For Video Unit X 1(GP-4621T,GP-4521T only)		No		
SD Card Slot (Max. 32GB)	x 1		x 1		No
USB	USB Type-A (2.0) x 1, USB mini-B (2.0) x 1		USB Type-A (2.0) x 1, USB mini-B (2.0) x 1		
Replaceable Battery	Yes		Yes		No (Rechargeable battery)
Alarm Analysis DB Function	Yes		Yes		
Other models	Coated model: Yes (Except GP-4621T,GP-4521T) / Color variation: Yes / Rear-mount model: Yes (Except GP-4603T, GP-4503T)		Coated model: Yes / Color variation: Yes / Rear-mount model: Yes (Except GP-4303T, GP-4201T and GP-4203T)		

Easily connect multiple USB devices

A controller with serial interface, EZ Series accessory unit, bar code reader, and USB flash drive can be easily connected to the HMI unit.*



* EZ Fingerprint Recognition Unit also requires power supply cable.
* Multiple devices of the same model cannot be connected.

W Model

	10.4" (DC 24V)	7.0" wide (DC 24V)	5.7" (DC 24V)	3.5" (DC 24V)
	GP-4501TW	GP-4401WW	GP-4301TW	GP-4201TW
	Color variation	Color variation	Color variation	Color variation
Display (Resolution)	65,536-color TFT (VGA 640 x 480 pixels)	65,536-color TFT (WVGA 800 x 480 pixels)	65,536-color TFT (QVGA 320 x 240 pixels)	
Touch Panel Type	Analog		Analog	
Memory	16MB (Application), SRAM128KB (Backup for HMI)	16MB (Application), SRAM128KB (Backup for HMI)	8MB (Application), SRAM128KB (Backup for HMI)	
Ethernet	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)	x1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)		No
SIO	RS-232C×1, RS-422/485×1		RS-232C×1, RS-422/485×1	
SD Card Slot (Max. 32GB)	x 1	×1	No	
USB	USB Type-A (2.0) x 1, USB mini-B (2.0) x 1		USB Type-A (2.0) x 1, USB mini-B (2.0) x 1	
Replaceable Battery	Yes	Yes	No (Rechargeable battery)	
Alarm Analysis DB Function	No		No	
Other models	Coated model: Yes / Color variation: Yes		Coated model: Yes / Color variation: Yes	

For detailed specifications, visit our website.
http://www.pro-face.com/product/hmi/gp4000/spec.html

Lineup

NVRAM equipped GP-4115T3 released!

Modular Type / Compact Type	5.7" DC 24V	3.5" DC 24V	4.3" DC 24V	3.4" DC 24V
	GP-4301TM Modular Type Color variation	GP-4201TM Modular Type Color variation	GP-411*T* Compact Type Color variation	GP-410* Compact Type Color variation
Display (Resolution)	65,536-color TFT (QVGA 320 x 240 pixels)		Color LCD (480 x 272 pixels)	Monochrome LCD (200 × 80 pixels)
Touch Panel Type	Analog			
Memory	8MB(Application),NVSRAM128KB(Non-volatile,No Battery Needed)		8MB(Application), FLASH EPROM 128MB*1 *2 *6 NVRAM 320KB*7 *8	2.2MB(Application), FLASH EPROM 128KB*1 *2
Ethernet	×1 (IEEE802.3i / IEEE802.3u, 10BASE-T/100BASE-TX)		×1 (IEEE802.3u, 10BASE-T/100BASE-TX) *3	
SIO	RS-232C/422/485×1		RS-232C/422/485×1*4	
SD Card Slot	No			
USB	USB Type-A (2.0) ×1, USB mini-B (2.0) ×1			
Replaceable Battery	No			
Alarm Analysis DB Function	No			
Other models	No			

Handheld Type	5.7" DC 24V
	GP-4311HT Handheld Type Color variation
Display (Resolution)	65,536-color TFT (VGA 640 x 480 pixels)
Touch Panel Type	Analog
Memory	32MB (Application), SRAM320KB*1, SRAM64KB*5
Ethernet	x1 (IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX)
SIO	RS-232C/422/485
SD Card Slot	x1
USB	USB Type-A (2.0) ×1, USB mini-B (2.0) ×1
Replaceable Battery	No
Alarm Analysis DB Function	Yes
Other models	No

Modular Type HMI with Easy Installation

GP4000M Series

A separate installation cable is under development.

Compact HMI with Full-graphic Display

GP4100 Series

90.4 mm [3.56 in]
124.9 mm [4.92 in]

Advanced Handheld Interface

GP4000H Series

*1: Backup for HMI *2: For supported features, please refer to GP-Pro EX Reference Manual. *3: GP-4114T/4104 only *4: Excluding GP-4114T/4104
*5: Backup for Control *6: Models other than GP-4115T3
*7: For GP-4115T3 only
*8: Models other than GP-4115T3 use a part of Flash EPROM as the Back up area. Backup for HMI

For detailed specifications, visit our website.
http://www.pro-face.com/product/hmi/gp4000/spec.html

Efficient Program Development and The Perfect Visualization

GP-Pro EX Ver. 4.0 and up Features

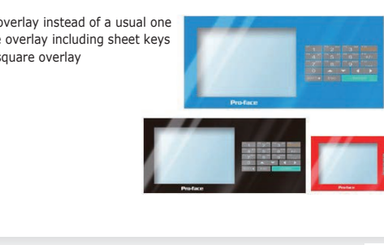
Quickly understand detailed differences between similar project files

Project Comparison Tool allows easy yet detailed comparison of two screen-project files for updating and modifying customer applications. Differences for each part attribute, alarm message, or setup item are displayed.

Screen B1		A	B
Parts 1	Address	X0001	X0002
	Shape	Circle	Square
	Action	Momentary	Alternate
	Label	Run	Run
⋮			

Multi-version File Format Support for Screen Project Files

Screen project files edited in version 3.1 of GP-Pro EX can also be saved in version 3.0 format to facilitate screen data handling among personnel with different responsibilities such as testing engineers, factory installation technicians, and maintenance engineers.



More Features

- Change password during on-line operation
- Extended text search and replacement
- Range Setting on Word Switch
- Selectable SRAM Back-up Data Modes for Screen Data Transfer

The Perfect Visualization Solution for every need.

Rear-mounting HMI, Integrates into Machine Design

GP4000 Series
Rear-mount Model

Size	12.1"	10.4"	7.5"	5.7"

GP4000 Series Rear-mount Models are DC power and analog touch panel models only.

Corrosion-resistant Board Coating for Environmental Requirement

All GP4000 Series products are available in coated models. (Except GP4100 Series, GP4000M Series and GP4000H Series)

Satisfies your desire to design

The customized overlay satisfies your design needs such as color, size, customized key sheet, anti-glare surface, and so on.

ex1: Blue overlay instead of a usual one
ex2: Entire overlay including sheet keys
ex3: Non-square overlay

For further information, visit our website.
http://www.pro-face.com/product/soft/gpproex.html

GP-4601T (Model No.: PFXGP4601TAA) *Coated Model No.: PFXGP4601TAAC

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 44 VA or less, 240 Vac: 58 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4601T (Model No.: PFXGP4601TAD) *Coated Model No.: PFXGP4601TADC

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4601T (Model No.: PFXGP4601TMA)

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (matrix)
Touch Panel Resolution		40 x 30 keys/screen
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 44 VA or less, 240 Vac: 58 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4601T (Model No.: PFXGP4601TMD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (matrix)
Touch Panel Resolution		40 x 30 keys/screen
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10⁻⁷ oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4603T (Model No.: PFXGP4603TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-485 (isolation) Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Even or Odd Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI) Connector: D-Sub9 (socket)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4621T (Model No.: PFXGP4621TAA)

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	Expansion Unit	Video unit x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 56 VA or less, 240 Vac: 77 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *4	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *5	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *6	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: Surrounding Air Temperature of the Video Unit is 0 to 50 °C (32 to 122 °F) when attaching the Video Unit to GP-4621T.

*5: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*6: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4621T (Model No.: PFXGP4621TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		12.1"
Resolution		800 x 600 pixels (SVGA)
Effective Display Area		W246.0 x H184.5 mm [W9.69 x H7.26 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 75 rows
	8 x 16 dots	100 char. x 37 rows
	16 x 16 dots	50 char. x 37 rows
	32 x 32 dots	25 char. x 18 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Expansion Unit	Video unit x 1
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	24 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *4	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *5	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *6	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: Surrounding Air Temperature of the Video Unit is 0 to 50 °C (32 to 122 °F) when attaching the Video Unit to GP-4621T.

*5: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*6: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4501T (Model No.: PFXGP4501TAA) *Coated Model No.: PFXGP4501TAAC

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.
*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.
*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 44 VA or less, 240 Vac: 58 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *5	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4501T (Model No.: PFXGP4501TAD) *Coated Model No.: PFXGP4501TADC

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.
*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.
*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *5	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4501T (Model No.: PFXGP4501TMA)

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (matrix)
Touch Panel Resolution		32 x 24 keys/screen
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 44 VA or less, 240 Vac: 58 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *5	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4501T (Model No.: PFXGP4501TMD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (matrix)
Touch Panel Resolution		32 x 24 keys/screen
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI), Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *5	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4503T (Model No.: PFXGP4503TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-485 (isolation) Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Even or Odd Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI) Connector: D-Sub9 (socket)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	AC 1,000 V 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	DC 500 V, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *1	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *2	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*1: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*2: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4501TW (Model No.: PFXGP4501TADW)

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		8 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 128 KB (Replaceable Lithium battery for backup memory)
Variable Area		None
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.
*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.
*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	10 ms or less
Power Consumption	17 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2.5 kg [5.5 lb] or less (display unit only)
External Dimensions	W315x H241x D56 mm [W12.4 x H9.49 x D2.2 in.]
Panel Cut Dimensions *5	W301.5 x H227.5 mm [W11.87 x H8.96 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4521T (Model No.: PFXGP4521TAA)

Functional Specification		
Display Type		TFT Color LCD
Display Size		10.4"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W211.2 x H158.4 mm [W8.31 x H6.24 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	Expansion Unit	Video unit x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	100 to 240 Vac
Input Voltage Limits	85 to 264 Vac
Allowable Voltage Drop	1 cycle or less (Voltage drop interval must be 1 second or more.)
Power Consumption	100 Vac: 56 VA or less, 240 Vac: 77 VA or less
In-Rush Current	30 A or less
Voltage Endurance	1,500 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *4	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,500 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *5	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	2 kg [4.4 lb] or less (display unit only)
External Dimensions	W272.5 x H214.5 x D57 mm [W10.73 x H8.44 x D2.24 in.]
Panel Cut Dimensions *6	W259 x H201 mm [W10.2 x H7.91 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: Surrounding Air Temperature of the Video Unit is 0 to 50 °C (32 to 122 °F) when attaching the Video Unit to GP-4521T.

*5: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*6: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4401T (Model No.: PFXGP4401TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		7.5"
Resolution		640 x 480 pixels (VGA)
Effective Display Area		W153.7 x H115.8 mm [W6.05 x H4.56 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	80 char. x 60 rows
	8 x 16 dots	80 char. x 30 rows
	16 x 16 dots	40 char. x 30 rows
	32 x 32 dots	20 char. x 15 rows
Application Memory		FLASH EPROM 32 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	5 ms or less
Power Consumption	12 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	1.2 kg [2.6 lb] or less (display unit only)
External Dimensions	W218 x H173 x D60 mm [W8.58 x H6.81 x D2.36 in.]
Panel Cut Dimensions *5	W204.5 x H159.5 mm [W8.05 x H6.28 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4401WW (Model No.: PFXGP4401WADW)

Functional Specification		
Display Type		TFT Color LCD
Display Size		7.0"
Resolution		800 x 480 pixels (WVGA)
Effective Display Area		W152.4 x H91.44 mm [W6.0 x H3.6 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		8 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	100 char. x 60 rows
	8 x 16 dots	100 char. x 30 rows
	16 x 16 dots	50 char. x 30 rows
	32 x 32 dots	25 char. x 15 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 128 KB (Replaceable Lithium battery for backup memory)
Variable Area		None
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	5 ms or less
Power Consumption	12 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	1.2 kg [2.6 lb] or less (display unit only)
External Dimensions	W218 x H173 x D60 mm [W8.58 x H6.81 x D2.36 in.]
Panel Cut Dimensions *5	W204.5 x H159.5 mm [W8.05 x H6.28 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4301T (Model No.: PFXGP4301TAD) *Coated Model No.: PFXGP4301TADC

Functional Specification		
Display Type		TFT Color LCD
Display Size		5.7"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W115.2 x H86.4 mm [W4.54 x H3.40 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Even or Odd Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.
*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.
*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	5 ms or less
Power Consumption	10.5 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.8 kg [1.8 lb] or less (display unit only)
External Dimensions	W169.5 x H137 x D59.5 mm [W6.67 x H5.39 x D2.34 in.]
Panel Cut Dimensions *5	W156 x H123.5 mm [W6.14 x H4.86 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4303T (Model No.: PFXGP4303TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		5.7"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W115.2 x H86.4 mm [W4.54 x H3.40 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Replaceable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Replaceable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-485 (isolation) Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Even or Odd Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI) Connector: D-Sub9 (socket)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	SD Card Slot x 1

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	5 ms or less
Power Consumption	10.5 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 55 °C [32 to 131 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.8 kg [1.8 lb] or less (display unit only)
External Dimensions	W169.5 x H137 x D59.5 mm [W6.67 x H5.39 x D2.34 in.]
Panel Cut Dimensions *5	W156 x H123.5 mm [W6.14 x H4.86 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4301TW (Model No.: PFXGP4301TADW)

***Coated Model No.: PFXGP4301TADWC**

Functional Specification		
Display Type		TFT Color LCD
Display Size		5.7"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W115.2 x H86.4 mm [W4.54 x H3.40 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		8 Levels (Adjusted with the touch panel ot the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 8 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Replaceable Lithium battery for backup memory)
Data Backup		SRAM 128 KB (Rechargeable Lithium battery for backup memory)
Variable Area		None
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Odd or Even, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission Data Length: 7 or 8 bits, Parity: none, Even or Odd Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI) Connector: D-Sub9 (plug)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	None

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	5 ms or less
Power Consumption	10.5 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.8 kg [1.8 lb] or less (display unit only)
External Dimensions	W169.5 x H137 x D59.5 mm [W6.67 x H5.39 x D2.34 in.]
Panel Cut Dimensions *5	W156 x H123.5 mm [W6.14 x H4.86 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*1: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*2: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4201T (Model No.: PFXGP4201TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		3.5"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W70.56 x H52.92 mm [W2.78 x H2.08 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Rechargeable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Rechargeable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Rechargeable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C/422/485 Asynchronous Transmission, Data Length: 7 or 8 bits, Parity: none, Even or Odd, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps(MPI), Connector: D-Sub9 (plug)
	Serial (COM2)	None
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4 ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4 ft.] or less
	SD Card	None

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	2 ms or less
Power Consumption	9.6 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.4 kg [0.9 lb] or less (display unit only)
External Dimensions	W132 x H106 x D42 mm [W5.2 x H4.17 x D1.65 in.]
Panel Cut Dimensions *5	W118.5 x H92.5 mm [W4.67 x H3.64 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4203T (Model No.: PFXGP4203TAD)

Functional Specification		
Display Type		TFT Color LCD
Display Size		3.5"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W70.56 x H52.92 mm [W2.78 x H2.08 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 16 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Rechargeable Lithium battery for backup memory)
Data Backup		SRAM 320 KB (Rechargeable Lithium battery for backup memory)
Variable Area		SRAM 64 KB (Rechargeable Lithium battery for backup memory)
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-485 (isolation) Asynchronous Transmission, Data Length: 7 or 8 bits, Parity: none, Even or Odd, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI), Connector: D-Sub9 (socket)
	Serial (COM2)	None
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular jack (RJ-45) x 1
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	None

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	2 ms or less
Power Consumption	9.6 W or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.4 kg [0.9 lb] or less (display unit only)
External Dimensions	W132 x H106 x D42 mm [W5.2 x H4.17 x D1.65 in.]
Panel Cut Dimensions *5	W118.5 x H92.5 mm [W4.67 x H3.64 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP-4201TW (Model No.: PFXGP4201TADW)

Functional Specification		
Display Type		TFT Color LCD
Display Size		3.5"
Resolution		320 x 240 pixels (QVGA)
Effective Display Area		W70.56 x H52.92 mm [W2.78 x H2.08 in.]
Display Colors		65,536 Colors (No blink)/16,384 Colors (Blink)
Backlight		White LED (User nonreplaceable parts. When replacement is required, contact your local distributor.)
Brightness Control		8 Levels (Adjusted with the touch panel or the software)
Backlight Service Life		50,000 hrs. or more (continuous operation at 25°C [77 °F] before backlight brightness decreases to 50%)
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters) ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.)
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 127 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *1		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 8 dots	40 char. x 30 rows
	8 x 16 dots	40 char. x 15 rows
	16 x 16 dots	20 char. x 15 rows
	32 x 32 dots	10 char. x 7 rows
Application Memory		FLASH EPROM 8 MB (including a logic program area)
Logic Program Area *2		FLASH EPROM 132 KB (Equivalent to 15,000 steps)
Font Area		FLASH EPROM 8 MB (Rechargeable Lithium battery for backup memory)
Data Backup		SRAM 128 KB (Rechargeable Lithium battery for backup memory)
Variable Area		None
Clock Accuracy *3		±65 sec/month (deviation at room temperature and power is OFF)
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C Asynchronous Transmission, Data Length: 7 or 8 bits, Parity: none, Even or Odd, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: D-Sub9 (plug)
	Serial (COM2)	RS-422/485 Asynchronous Transmission, Data Length: 7 or 8 bits, Parity: none, Even or Odd, Stop Bit: 1 or 2 bits, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5kbps (MPI), Connector: D-Sub9 (plug)
	Ethernet (LAN)	0
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500 mA or less, Communication Distance: 5 m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m [16.4ft.] or less
	SD Card	None

*1: Other font sizes can be set up with the Editor software.

*2: Up to 60,000 steps can be converted in software. However, this reduces application memory capacity (for screen data) by 1 MB.

*3: Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec/month.
For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.

General Specification	
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	2 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 50 °C [32 to 122 °F]
Storage Temperature	-20 to 60 °C [-4 to 140 °F]
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ (10-7 oz/ft³) or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m [6,561ft.] above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (approx. 100 min)
Concussion Resistance	IEC/EN61131-2 compliant 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² (AWG 14) or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *4	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.4 kg [0.9 lb] or less (display unit only)
External Dimensions	W132 x H106 x D42 mm [W5.2 x H4.17 x D1.65 in.]
Panel Cut Dimensions *5	W118.5 x H92.5 mm [W4.67 x H3.64 in.], Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in.]

*4: The front face of the GP unit, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though the GP unit's level of resistance is equivalent to these standards, oils that should have no effect on the GP can possibly harm the unit. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to the unit for long periods of time. If the GP's front face protection sheet becomes peeled off, these conditions can lead to the ingress of oil into the GP and separate protection measures are suggested. Also, if non-approved oils are present, it may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing the GP unit, be sure to confirm the type of conditions that will be present in the GP's operating environment. If the installation gasket is used for a long period of time, or if the unit and its gasket are removed from the panel, the original level of the protection cannot be guaranteed. To maintain the original protection level, be sure to replace the installation gasket regularly.

*5: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if the installation wall thickness is within the recommended range for the "Panel Cut Dimensions", depending on wall's material, size, and installation location of GP unit and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

GP4100SERIES

Color Model

Ethernet Type	RS-232C Type	RS-422/485 type
GP-4114T	GP-4115T	GP-4116T
Model: PFXGP4114T2D	Model: PFXGP4115T2D PFXGP4115T3D	Model: PFXGP4116T2D

■Model Number Configuration

PFXGP411 $\underline{*}$ T $\underline{*}$ D
(1) (2)

(1) Type		(2) Type	
4	Ethernet type	2	Not equipped NVRAM
5	RS-232C type	3	NVRAM equipped
6	RS-422/485 type		

■Display Specifications

	GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Display Type	TFT Color LCD		
Display Size	4.3″		
Resolution	480 x 272 pixels		
Effective Display Area	W95 x H53.9mm (W3.74 x H2.12 in.)		
Display Colors	65,536 colors For details about display colors, refer to the manual for your screen editing software.		
Backlight	White LED (Not user replaceable. When replacement is required, contact your local distributor.)		
Backlight Service Life	50,000 hours or more (continuous operation at 25 ° C [77 ° F] before backlight brightness decreases to 50%		
Brightness Control	16 levels (Adjusted with touch panel)		

■Memory Specifications

	GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Application Memory	8MB		
Backup Memory	FLASH EPROM 128 MB(Models other than GP-4115T3)*1 NVRAM 320KB(For GP-4115T3 only) *1		

*1 Amount of memory you can use differs depending on your screen editing software. Refer to the manual for your screen editing software.

■Electrical Specifications

			GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Power Supply	Rated Input Voltage		12...24 Vdc		
	Input Voltage Limits		10.2...28.8 Vdc		
	Voltage Drop		12 Vdc: 1 ms or less 24 Vdc: 3 ms or less		
	Power Consumption	When power is not supplied to USB devices	3.9 W or less	3.4 W or less	3.6 W or less
		When power is supplied to USB devices	8.1 W or less	7.5 W or less	7.7 W or less
	In-Rush Current		12 Vdc: 20 A or less 24 Vdc: 40 A or less		
Voltage Endurance			1,000 Vac, 20 mA for 1 minute (between charging and FG terminals)		
Insulation Resistance			500 Vdc, 10 MΩ or more (between charging and FG terminals)		

GP4100SERIES

Color Model

■Environmental Specification

		GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Physical Environment	Surrounding Air Temperature	0...50 ° C (32...122 ° F) *2		
	Storage Temperature	-20...60 ° C (-4...140 ° F)		
	Surrounding Air and Storage Humidity	10%...90% RH (Non condensing, wet bulb temperature 39 ° C [102.2 ° F] or less)		
	Dust	0.1 mg/m^3 (10^{-7} oz/ft^3) or less (non-conductive levels)		
	Pollution Degree	For use in Pollution Degree 2 environment		
	Corrosive Gases	Free of corrosive gases		
	Atmospheric Pressure (Operating Altitude)	800...1,114 hPa (2,000 m [6,561 ft] or lower)		
Mechanical Environment	Vibration Resistance	IEC/EN 61131-2 compliant 5...9 Hz Single amplitude 3.5 mm (0.14 in) 9...150 Hz Fixed acceleration: 9.8 m/s^2 X, Y, Z directions for 10 cycles (approximately 100 minutes)		
	Shock Resistance	IEC/EN 61131-2 compliant 147 m/s^2, X, Y, Z directions for 3 times		
Electrical Environment	Electrostatic Discharge Immunity	Contact discharge method: 6 kV (IEC/EN 61000-4-2 Level 3)		

*2 The designated range for the surrounding air temperature is 0 to 45 ° C (32 to 113 ° F) when the output current of USB (Type A) interface is from 0.25 A to 0.5 A.

NOTE: When using any of the options for this product, make sure to check the specifications for any special conditions or cautions that may apply to this product.

■Interface Specification

	GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Serial Interface	-	Asynchronous Transmission: RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, odd, or even Data Transmission Speed: 2,400(1,200)...115,200 bps Connector: 2-piece terminal block 9 pin x 1	Asynchronous Transmission: RS-422/485 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, odd, or even Data Transmission Speed: 2,400(1,200)...115,200 bps, 187,500 bps (MPI) Connector: 2-piece terminal block 9 pin x 1
USB (Type A) Interface	Connector: USB 2.0 (Type A) x 1, Power Supply Voltage: 5 Vdc ±5%, Maximum Current Supplied: 500 mA/port, Maximum Transmission Distance: Less than 3 m (9.84 ft)		
USB (mini-B) Interface	Connector: USB 2.0 (mini-B) x 1, Maximum Transmission Distance: Less than 3 m (9.84 ft)		
Ethernet interface	Standard: IEEE802.3u, 10BASET/ 100BASE-TX, Connector: Modular jack (RJ-45) x 1	-	-

■Structural Specification

	GP-4114T	GP-4115T / GP-4115T3	GP-4116T
Grounding	Functional grounding: Grounding resistance of 100 Ω, 2 mm^2 (AWG 14) or thicker wire, or your country's applicable standard (same for FG and SG terminals).		
Cooling Method	Natural air circulation		
Structure *3	IP65F, Type 1, Type 4X (Indoor Use only), Type 13 * on the front panel when properly installed in an enclosure.		
External Dimensions	Refer to Dimensions.		
Panel Cut Dimensions	Refer to Panel Cutout Dimensions.		
Weight	0.22 kg (0.49 lb) or less		

*3 The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though this product's level of resistance is equivalent to these standards, oils that should have no effect on this product can possibly harm this product. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to this product for long periods of time. If this product 's front face protection sheet peels off, these conditions can lead to the ingress of oil into this product and separate protection measures are suggested.

Also, if non-approved oils are present, they may cause deformation or corrosion of the front panel's plastic cover. Therefore, prior to installing this product, be sure to confirm the type of conditions that will be present in this product 's operating environment. If the installation gasket is used for a long period of time, or if this product and its gasket are removed from the panel, the original level of protection cannot be kept. To maintain the original protection level, be sure to replace the installation gasket regularly.

GP-4104G (Model No.: PFXGP4104G1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome Green/Red/Orange (16 Levels)
Backlight *1		Green/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		Green: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX, Connector: Modular jack (RJ-
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4104W (Model No.: PFXGP4104W1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome White/Red/Pink (16 Levels)
Backlight *1		White/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		White: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX, Connector: Modular jack (RJ-
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4105G (Model No.: PFXGP4105G1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome Green/Red/Orange (16 Levels)
Backlight *1		Green/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		Green: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C, Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: 2-piece terminal block 9 pin
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4105W (Model No.: PFXGP4105W1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome White/Red/Pink (16 Levels)
Backlight *1		White/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		White: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-232C, Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: 2-piece terminal block 9 pin
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4106G (Model No.: PFXGP4106G1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome Green/Red/Orange (16 Levels)
Backlight *1		Green/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		Green: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-422/485, Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: 2-piece terminal block 9 pin
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4106W (Model No.: PFXGP4106W1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome White/Red/Pink (16 Levels)
Backlight *1		White/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		White: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-422/485, Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, Connector: 2-piece terminal block 9 pin
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.]. Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4107G (Model No.: PFXGP4107G1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome Green/Red/Orange (16 Levels)
Backlight *1		Green/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		Green: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-485 (isolation), Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI), Connector: D-Sub9 (socket)
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 dcV
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP-4107W (Model No.: PFXGP4107W1D)

Functional Specification		
Display Type		STN Monochrome LCD
Display Size		3.4"
Resolution		200 x 80 pixels
Effective Display Area		79.985 x 31.985 mm
Display Colors		Monochrome White/Red/Pink (16 Levels)
Backlight *1		White/Red LED (User nonreplaceable parts. Factory replacement required.)
Brightness Control		16 Levels (Adjusted with the touch panel)
Backlight Service Life		White: 50,000 hrs. or more, Red 10,000 hrs. or more (each in continuous operation at 25℃ before backlight brightness decreases to 50%)
Language Fonts *2		Japanese, ASCII, Chinese (Simplified), Chinese (Traditional), Korean, Cyrillic, Thai
Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 pixel fonts, Stroke font: 6 to 80 pixel fonts, Image font: 8 to 72 pixel fonts
Font Sizes *3		Standard font: Width can be expanded up to 8 times. Height can be expanded up to 8 times.
Text	8 x 16 dots	25 char. x 5 rows
	16 x 16 dots	12 char. x 5 rows
	32 x 32 dots	6 char. x 2 rows
Application Memory *4		FLASH EPROM 2.2 MB
Data Backup *5		128KB
Clock Accuracy *6		Uses the clock of an external device
Touch Panel Type		Resistive Film (analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1,000,000 times or more
Interface	Serial (COM1)	RS-485 (isolation), Asynchronous Transmission, Data Length: 7 or 8 bit, Parity: none, Odd or Even, Stop Bit: 1 or 2 bit, Data Transmission Speed: 2,400 bps to 115.2 kbps, 187.5 kbps (MPI), Connector: D-Sub9 (socket)
	USB (Type-A) *7	Conforms to USB2.0 (Type-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Communication Distance: 5 m or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5 m or less

*1: The backlight burnout detection function is not supported.
*2: Please refer to the GP-Pro EX reference manual for details on font types and character codes.
*3: Other font sizes can be set up with the Editor software.
*4: Capacity available for user application.
*5: Application memory can provide 128KB for Data Backup. For further information, please refer to the GP-Pro EX reference manual.
*6: Set up the “Clock Updates“ feature with the Editor software.
Please refer to the GP-Pro EX reference manual “Common” - “Clock Update Settings” for details.
*7: If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub).
If connecting a bar code reader to the GP, be sure to supply power from an external source (such as a self-powered hub). If you supply

General Specification	
International Safety Standards	Please see our WEB Site for the International Safety Standards.
Rated Input Voltage	24 Vdc
Input Voltage Limits	19.2 to 28.8 Vdc
Allowable Voltage Drop	3 ms or less
In-Rush Current	30 A or less
Voltage Endurance	1,000 Vac, 20 mA for 1 min (between charging and FG terminals)
Insulation Resistance	500 Vdc, 10 MΩ or more (between charging and FG terminals)
Surrounding Air Temperature *8	0 to 50 ℃
Storage Temperature	-20 to +60 ℃
Ambient Humidity	10 to 90 % RH (Wet bulb temperature: 39 ℃ or less - no condensation.)
Storage Humidity	
Dust	0.1 mg/m³ or less (non-conductive levels)
Pollution Degree	For use in Pollution Degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (altitude range)	800 to 1,114 hPa (2,000 m above sea level or less)
Vibration Resistance	IEC/EN61131-2 compliant, 5 to 9 Hz Single amplitude 3.5 mm [0.14 in.], 9 to 150 Hz Fixed acceleration: 9.8 m/s², X, Y, Z directions for 10 cycles (100 min)
Concussion Resistance	IEC/EN61131-2 compliant, 147 m/s², X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000 Vp-p, Pulse Duration: 1 μs, Rise Time: 1 ns, (via noise simulator)
Noise Immunity (Fast Transient Burst Noise)	Power Line: 2 kV (IEC/EN61000-4-4), COM Port: 1 kV (IEC/EN61000-4-4)
Electrostatic Discharge Immunity	Contact Discharge Method: 6 kV/Air Discharge Method: 8 kV (IEC/EN61000-4-2 Level 3)
Grounding	Functional grounding: Grounding resistance of 100Ω, 2mm² or thicker wire, or your country's applicable standard. (Same for FG and SG terminals)
Structure *9	IP65f NEMA #250 TYPE 4X/13 (on the front panel when properly installed in an enclosure)
Cooling Method	Natural air circulation
Weight Approx.	0.2 kg [0.4 lb] or less (display unit only)
External Dimensions	W116.5 x H77.5 x D28 mm [W4.59 x H3.05 x D1.1 in.]
Panel Cut Dimensions *10	W105 x H66 mm [W6.14 x H4.86 in.], Panel thickness area: 1 to 5 mm [0.04 to 0.2 in.]

*8: When using in an environment where the temperature becomes or exceeds 40 ℃ for an extended period of time, the screen contrast level may decrease from its original level of brightness.

*9: The front face of the GP unit, installed in a solid panel, has been tested using, conditions equivalent to the standards shown in the specification.

*10: Regarding dimensional tolerance, everything +1/-0 mm [+0.04/-0 in.] and R in angle are below R3 [R0.12 in.].
Even if panel thickness is within recommend range for “Panel Cut Dimensions”, the panel could warp, depending on panel’s material, size,

GP4000 SERIES

Handheld Model

GP-4311HT

Model: PFXGP4311HTAD*

■Model Number Configuration

PFXGP4311HTAD*
(1)

(1) Type	
N/A	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

■Functional Specifications

		GP-4311HT
Display Type		TFT Color LCD
Display Size		5.7"
Resolution		640 x 480 Pixels (VGA)
Dot Pitch		W0.18 x H0.18mm [W0.01 X H0.01in.]
Effective Display Area		115.2 x 86.4mm (4.54 x 3.4in)
Display Colors		65,536 Colors (No blink) / 16,384 Colors (Blink)
Backlight		White LED (Not user replaceable. When replacement is required, contact your local distributor.)
Brightness Control		16 Levels (Adjusted with touch panel)
Contrast Control		Not Applicable
Language Fonts		Japanese: 6,962 (JIS Standards 1 & 2) (including 607 non-kanji characters), ANK: 158 (Korean fonts, Simplified Chinese and Traditional Chinese fonts are downloadable.
Character Sizes		Standard Font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 Pixel Fonts, Stroke Font: 6 to 127 Pixel Fonts
Font Sizes		Standard font: Width can be expanded up to 8 times., Height can be expanded up to 8 times.*1
8 x 8 Dots		80 Char. x 60 Rows
8 x 16 Dots		80 Char. x 30 Rows
16 x 16 Dots		40 Char. x 30 Rows
32 x 32 Dots		20 Char. x 15 Rows
Application Memory		Flash EPROM 32MB*2
Data Backup		SRAM 320KB*2*3
Clock Accuracy		±65 sec./month (deviation at room temperature and power is OFF) *4
Touch Panel Type		Resistive Film (Analog)
Touch Panel Resolution		1,024 x 1,024
Touch Panel Service Life		1 million times or more
Interface	Serial (COM1)	Asynchronous Transmission: RS-232C/RS-422/RS-485, Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, odd, or even, Data transmission speed: 2,400 to 115,200bps, 187,500bps (MPI) Maximum Communication Distance*5: When using RS-232C: 15m (49.2ft) When using RS-422 at 115,200bps : 1,200m (3937ft)
	Ethernet (LAN)	IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX Connector: Modular Jack (RJ-45) x 1 Maximum Communication Distance*5: 100m (328.1ft)
	USB (Type-A)	Conforms to USB2.0 (TYPE-A) x 1, Power Supply Voltage: DC 5 V ±5 %, Output Current: 500mA or less, Communication Distance: 5m [16.4ft.] or less
	USB (Type mini-B)	Conforms to USB2.0 (mini-B) x 1, Communication Distance: 5m [16.4ft.] or less
	CF Card	-
	SD Card	SD Card Slot x 1
	Function Switch	12 Switches (Right: 6 Switches, Left: 6 Switches) (DOUT: 2 Open Collector Output [F1, F2], Operation Switch: 1 Open Collector Output [O.P])
	Emergency Switch Output	Push-lock Switch, 3 Contacts (A-contact: 1 Contact, B-contact: 2 Contacts), Rated Voltage: DC 30V, Maximum Rated Current: 1A, (Minimum Allowable Load: DC 5V, 1mA), Applicable Standards*6: IEC/EN60947-5-1, IEC/EN60947-5-5, UL508, CSA C22.2 No.14
	3-Position Enable Switch Output	GP Rear Panel Switch, 2 Contacts (A-contact), Rated Voltage: DC 30V, Maximum Rated Current: 700mA (Minimum Allowable Load: DC 3V, 5mA), Applicable Standards*6: IEC/EN60947-5-8, 60204-1, UL508, CSA C22.2 No.14, ISO12100/EN12100-1,2, ISO11161/prEN11161 ISO10218/EN775, ANSI/RIA R15.06, ANSI B11.19
	Key Switch Output	1c-Contact, Rated Voltage: DC 24V, Maximum Rated Current: 300mA
	External*7 Operation Output	Open Collector Output: 1 Point, Rated Voltage: DC 24V, Maximum Rated Current: 300mA
	External*7 External Buzzer Output	Open Collector Output 1 Point, Rated Voltage: DC 24V, Maximum Rated Current: 300mA
	External*7 DOUT Output	Open Collector Output: 2 Points [F1, F2], Rated Voltage: DC 24V, Maximum Rated Current: 300mA/point

*1 Other font sizes can be set up with the Editor software.
*2 Amount of memory you can use differs depending on your screen editing software. Refer to the manual for your screen editing software.
*3 Rechargeable lithium battery for backup memory.
*4 Depending on the operating temperature and age of unit, the clock can deviate from -380 to +90 sec./month. For systems where this level of deviation is a problem, the user should monitor and make adjustments when required.
*5 When using the Conversion Adapter (model number: AGP3000H-ADPCOM-01), the distance includes the cable length between this product and the Conversion Adapter.
*6 Overall system may not meet these standards if implemented outside these parameters. Follow these standards when designing the system.
*7 The conversion adapter is required to use the external output interface (DOUT) and build a system. For details, refer to the installation guide of conversion adapter.

GP4000SERIES

Handheld Model

■General Specification

	GP-4311HTAD*
International Safety Standards	UL61010-2-201, CE(EMC, LVD, Machine), KC, EAC, RCM
Rated Input Voltage	24Vdc
Input Voltage Limits	DC 19.2 to 28.8Vdc
Allowable Voltage Drop	10ms or less
Power Consumption	12W or less (When power is not supplied to external devices: 8W or less)
In-Rush Current	35A or less
Voltage Endurance	500Vac, 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	500Vdc, 10MΩ or more (between charging and FG terminals)
Surrounding Air Temperature	0 to 40°C (32 to 104°F)
Storage Temperature	-20 to 60°C (-4 to 140°F)
Ambient Humidity	10% to 90% RH (Non Condensing, Wet Bulb Temperature 39°C [102.2°F] or less)
Storage Humidity	10 to 90% RH (Wet Bulb Temperature: 39°C max. - No condensation.)
Dust	0.1 mg/m3 (10-7 oz/ft3) or less (Non-conductive Levels)
Pollution Degree	For use in pollution degree 2 environment
Atmosphere	Free of corrosive gases
Air Pressure (Altitude Range)	800 to 1,114hPa (2,000m [6,561ft] or lower)
Vibration Resistance	IEC/EN 61131-2 compliant 5 to 9Hz Single amplitude 3.5mm (0.14in) 9 to 150Hz Fixed acceleration: 9.8m/s2 X, Y, Z directions for 10 cycles (Approximately 100 Minutes)
Shock Resistance	IEC/EN 61131-2 compliant 147m/s2, X, Y, Z directions for 3 times
Noise Immunity	Noise Voltage: 1,000Vp-p Pulse Duration: 1ms, Rise Time: 1ns (via noise simulator)
Electrostatic Discharge Immunity	Contact Discharge Method: 6kV (IEC/EN 61000-4-2 Level 3)
Drop Resistance	IEC 61131-2 Compliant 1.0m [3.3ft] Drop - 2 Times
Grounding	Functional Grounding: Grounding resistance of 100Ω, 2mm2 (AWG 14) or thicker wire, or your country's applicable standard (same for FG and SG terminals).
Structure*8	Equivalent to IP65
Weight Approx.	910g (2.01lb) or less: without a key switch, unit only 960g (2.12lb) or less: with a key switch, unit only

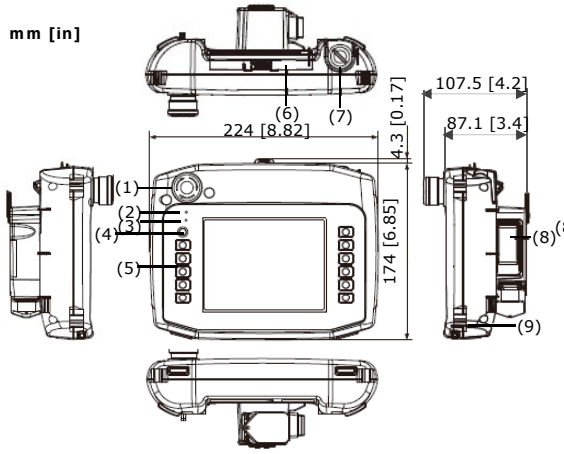
*8 This product has been tested using conditions equivalent to the standards shown in the specification.

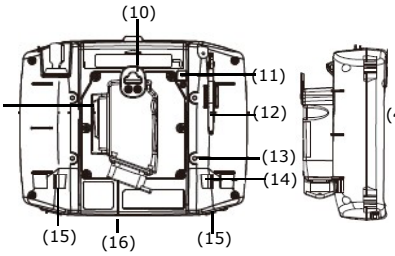
NOTE: When using any of the options for this product, make sure to check the specifications for any special conditions or cautions that may apply.

■External Dimensions

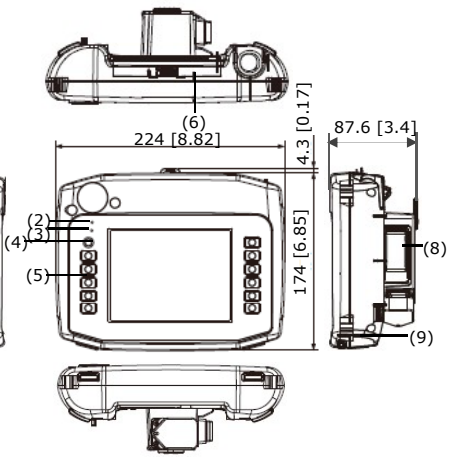
Models with an Emergency Stop Switch or Stop Switch

mm [in]

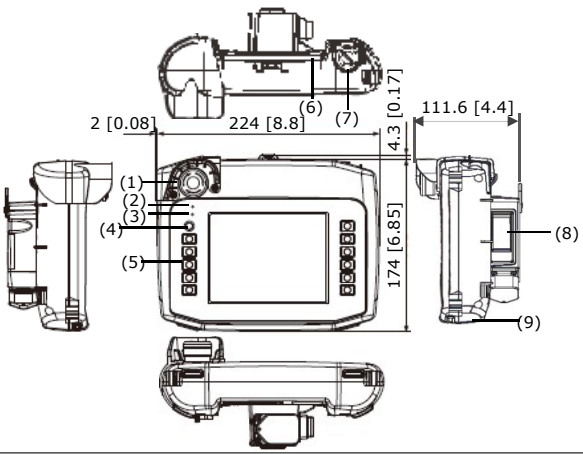




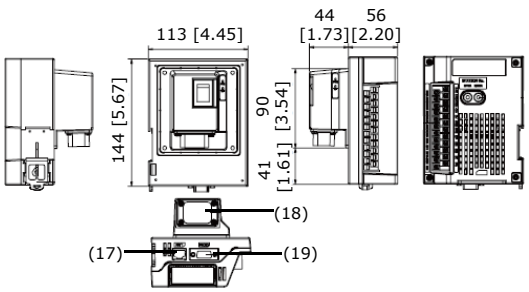
Models without any Stop Switch



Models with a Stop Switch Guard



Conversion Adapter



<Descriptions>

(1) Emergency stop switch (2) Status LED (3) Operation LED (4) Operation Switch
(5) Function Switches (6) Maintenance Cover (7) Key Switch (8) 3-position Enable Switch
(9) Neck Strap Attachment Slot (10) Hanger (11) SD Card Access LED (12) Touch Pen
(13) Wall Hanging Adapter Attachment Slots (14) Hand Strap Attachment Slots
(15) Insertion hole (with cover) for function switch sheet
(16) Interface for direct-connect cable (with connector cover) (17) Ethernet Interface
(18) Connector Cover (19) Serial Interface

Your choice of platform

Mobile

Allows you to monitor & control Pro-face HMI screen on a smart smart phone or a tablet seeing machine information wherever you go.

Pro-face Remote HMI

IPC Industrial Windows Personal Computer

Offer a wide selection with technology to meet your exact needs, Available in Box & Panel types with sustainability, durability and expandability.

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SPSERIES

GPSERIES

LTSERIES

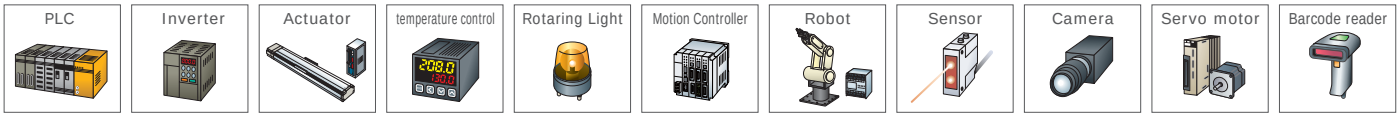
HMI Human Machine Interfaces

Offer extensive connectivity, clean, clear displays, and wide variety of product lines - standard, compact, modular, and handheld HMIs.

HMI+Control

Offer lower overall system costs snd less panel space. Combines built-in PLC functionality with an operator interface, which is all-in-one software.

Direct connection via our products to various devices enabled with our all-in-one software



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⚠ WARNING

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 equipment damage.

- For printing purposes, the colors in this catalog may differ from those of the actual unit.
- Actual user screens may differ from the screens shown here.
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