



## Enhanced Environmental Resistance

A new IP67 environmental rating gives the GT-32E Series excellent visibility, operability, and functionality.

The LCD picture is simulated images.

# Introducing the GT32-E Series with Excellent Environmental Resistance



-20 °C to  
+60 °C  
-4 °F to  
+140 °F

## Wide Operating Temperature Range!

-20 °C to +60 °C -4 °F to +140 °F  
(-20 °C to +55 °C -4 °F to +131 °F  
when horizontally installed)

IP67

## High Waterproof Performance!

Front panel: Rated IP67

UV  
Reduction

## Resistant to UV Rays!

A front protection layer reduces the  
intensity of UV rays

Anti-Glare  
Coating

## High Visibility Display

Improved brightness and contrast,  
coupled with a new anti-glare coating  
provides exceptional viewing characteristics.










See page 8 for details. ►

## New additions of the GT02 and GT12 lineups

• GT02M: A black body type

• GT02G: A silver body type

• GT12: A model without an SD  
memory card slot.

GTseries		Rated voltage	Display							External interface	
			Screen size	Display type	Display color	Resolution	Backlight	Displayable characters*1	Memory capacity (F-ROM)	USB port	SD / SDHC memory card
Environmentally-resistant Tough series	<b>GT32M-E</b> <span style="float:right">P.8</span> 	24 V DC	5.7 inch	TFT monochrome LCD	2 colors (black / white) (16-gray scale)	320(W) × 240(H) dots	White LED	768 characters	12 Mbyte	○	○
	<b>GT32T-E</b> <span style="float:right">P.8</span> 	24 V DC	5.7 inch	TFT color LCD	4,096 colors	320(W) × 240(H) dots	White LED	768 characters	12 Mbyte	○	○
Entry-level model	<b>GT02L</b> <span style="float:right">P.10</span> 	5 V DC	3.7 inch	STN monochrome LCD	2 colors (black / white)	160(W) × 64(H) dots	White LED	96 characters	704 kbyte	○ (mini)	—
GT series	<b>GT02</b> <span style="float:right">P.11</span>  GT02M      GT02G	5 V DC 24 V DC	3.8 inch	STN monochrome LCD	2 colors (black / white)	240(W) × 96(H) dots	GT02M: 3-color LED (white/pink/red) GT02G: 3-color LED (green/orange/red)	216 characters	2 Mbyte	○ (mini)	○ AIG02MQ2+D and AIG02GQ2+D only
	<b>GT12</b> <span style="float:right">P.12</span>  GT12G      GT12M	24 V DC	4.6 inch	STN monochrome LCD	2 colors (black / white) (8-gray scale)	320(W) × 120(H) dots	GT12M: 3-color LED (white/pink/red) GT12G: 3-color LED (green/orange/red)	384 characters	2 Mbyte	○ (mini)	○ AIG12MQ1+D and AIG12GQ1+D only
	<b>GT05</b> <span style="float:right">P.13</span>  GT05M      GT05G	24 V DC	3.5 inch	STN monochrome LCD	2 colors (black / white)	320(W) × 240(H) dots	GT05M: 3-color LED (white/pink/red) GT05G: 3-color LED (green/orange/red)	768 characters	2 Mbyte	○	○
	<b>GT05S</b> <span style="float:right">P.13</span>  GT05S      GT05S										
	<b>GT32M</b> <span style="float:right">P.14</span>  GT32M      GT32M	24 V DC	5.7 inch	STN monochrome LCD	2 colors (blue / white)	320(W) × 240(H) dots	CFL	768 characters	2 Mbyte	○	○
	<b>GT32T</b> <span style="float:right">P.15</span>  GT32T0      GT32T1	24 V DC	5.5 inch	TFT color LCD	4,096 colors	320(W) × 240(H) dots	CFL	768 characters	12 Mbyte	○	○ GT32T1 has Ethernet and sound output ports.

\*1 With the 10-dot font

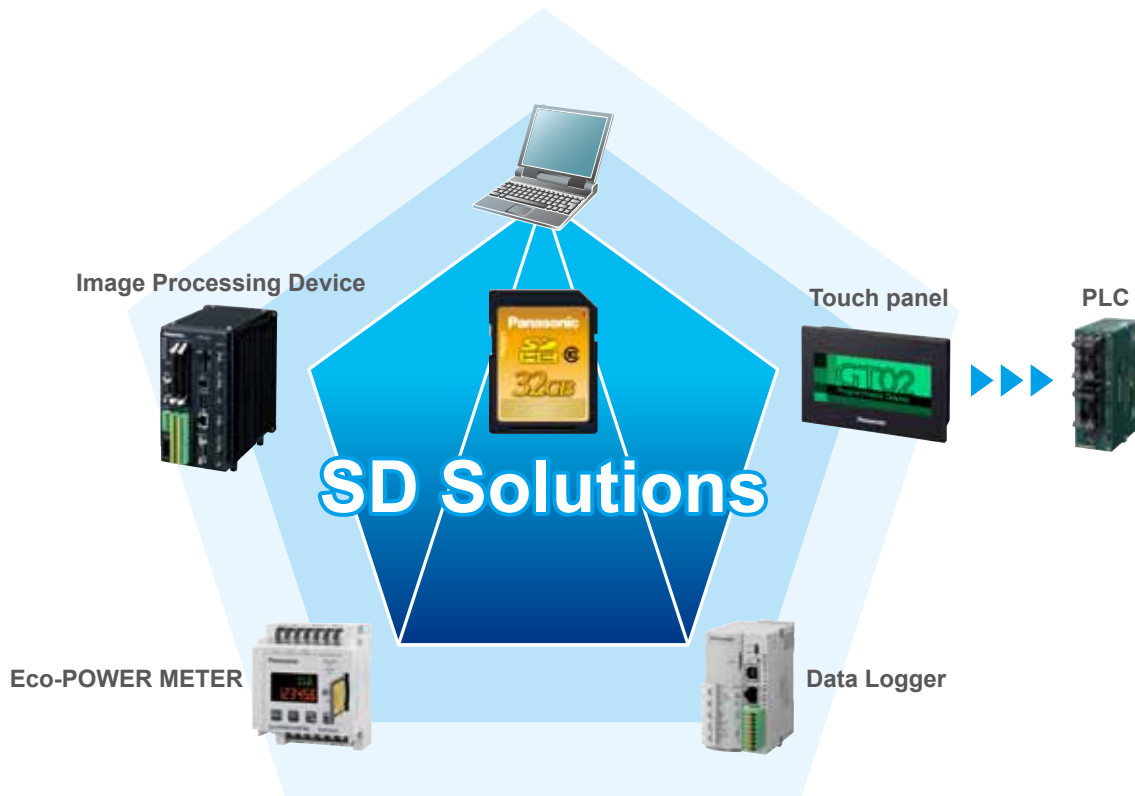
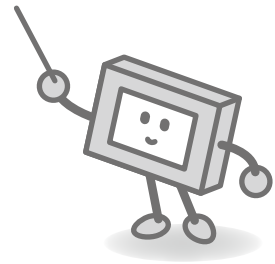
\*2 Display device of GT05S will be changed to TFT color LCD from production in December 2011.

# SD Solutions only Panasonic can provide

## Links and expansion via SD

As small-size touch panels have significantly improved their image quality, easy to read displays with sharp characters are no longer special features these days. Instead, programmable displays will evolve with maximum "user-friendliness" in various applications with PCs or other devices.

As shown below, our touch panels exchange and store data using SD memory card, data for many applications.



### Links via SD

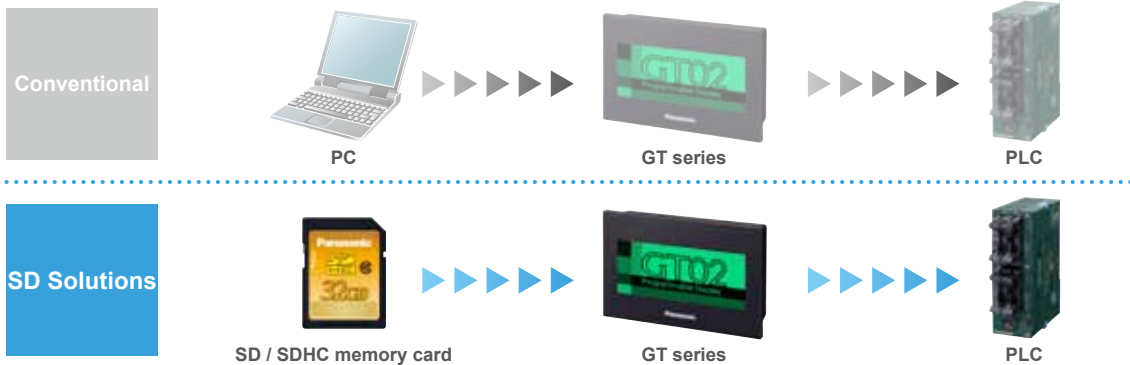
- ▶▶ SD recipe function (Data table management)
- ▶▶ Transfer of PLC program data

### Expansion via SD

- ▶▶ Saving alarm history data on an SD
- ▶▶ Logging function
- ▶▶ Display of graphs of stored data

## PLC program transfer without the use of a PC

It is possible to modify PLC ladder programs as well as the GT screen programs by using an SD / SDHC memory card. SD / SDHC memory card enables everyone to easily modify programs.



## SD logging function to produce data “Visualization”

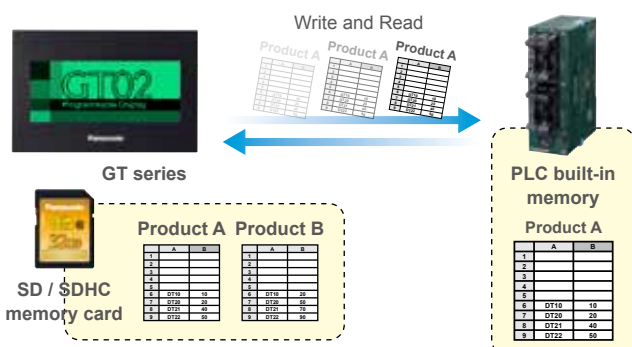
Capable of automatically collecting electrical power readings of Eco-POWER METERS and displaying them in a real time graph, allowing users to take quick actions for solutions.

- The GT unit can collect data, such as electrical power on an SD / SDHC memory card, and display the log data in a real time graph. You can make data “Visualization” without using a PC as a display or Data logger for collecting data.
- One bar graph has a maximum of eight bars and can be combined with line graphs.
- The following three conditions can be selected to trigger an operation to save log data.
  - (1) Specified time (2) Specified cycle (1 sec. to 24 hrs.) (3) Specified condition
- Large volumes of data can be saved on an SD / SDHC memory card, which can be carried with you.



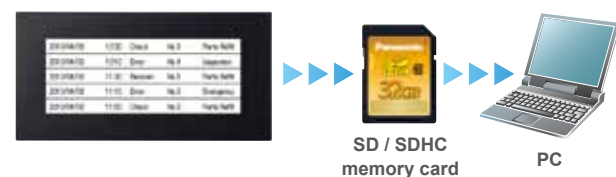
## SD recipe function

For high-mix production, recipe data up to 64 types and 4,096 devices in total, can be easily set on a PC. The created recipe data is saved on an SD / SDHC memory card, and the specified data can be written or read from a PLC.



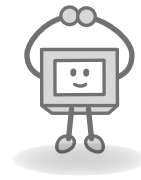
## Saving alarm history data on an SD / SDHC memory card

The alarm history data stored in the GT built-in memory can be saved on an SD / SDHC memory card, making it possible to easily control problems on a PC.



• The LCD images on this page are composites.

# High Visibility and Excellent Operability



## Three-color LED backlight allows for checking machine status at a glance (GT02M, GT02G, GT05M, GT05G, GT12M and GT12G)

The monochrome display\* has a three-color LED backlight. It allows operators to check the equipment status at a glance by changing the background color.

Example: green under normal conditions, orange during operation, and red in emergency situations.

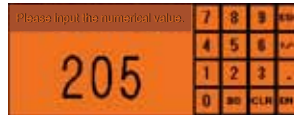
\* Except GT32M-E, GT32M and GT02L

GT05G



(Normal)

GT12G



(In operation)

GT02G

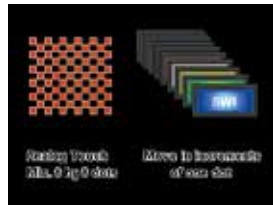
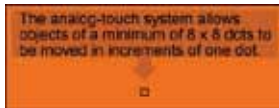


(Emergency)

## Highly flexible screen design!

GT series displays use an analog-touch panel where locations of parts and characters can be adjusted in increments of one dot. The adoption of the Windows® font has widened the character size selection (10 to 240 dots), making the screen design more flexible. \*The maximum size varies depending on the model.

### “Analog-touch design”



### “TrueType fonts”

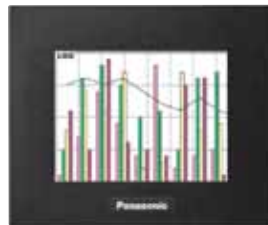


The adoption of the Windows® font has made it possible to choose a font focusing on the screen image and visual quality.



## Graph function

One bar graph has a maximum of eight bars and can be combined with line graphs.



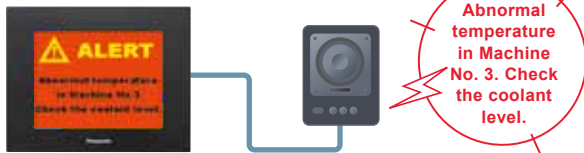
## Flow display function

A flowing message of up to 64 characters (two-byte) can be displayed at the bottom of the screen. (128 messages)



## Error warning by voice messages (GT32T1)

Voice messages or melodies immediately communicate the equipment status to operators not located near the equipment. The sound files are compatible with WAV format, which can be easily prepared by a PC.



GT32T1

## Portrait display ideal for narrow spaces (GT02, GT02L and GT12)

The unit can display screens in portrait orientation and can therefore be installed in narrow spaces, expanding system design possibilities and contributing to size reduction. The portrait display is also ideal for slim equipment without enough space to install a display.



## Multi-function switches

Multiple operations are possible. For example, screens can be switched by setting multiple values.

## 4,096-color parts libraries

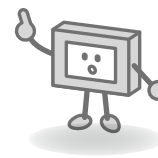
(GT05S, GT32T and GT32T-E)

3D-design buttons with higher visibility and operability are available.



● The LCD images on this page are composites.

# Advanced Functions to Enhance Work Efficiency



## Newly equipped with an FP monitoring function

The setting status and data of our FP series PLC connected to GT can be monitored and edited on the GT screen. This function allows you to check equipment operations in actual environments without creating screens in advance or connecting the unit to a PC and to increase the efficiency of equipment startup and daily maintenance work.

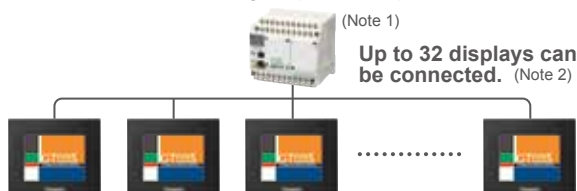
Notes: 1) The FP monitoring function is available for FP-X, FPΣ, FP0R, FP2, FP2SH, FP0, and FP-e.

2) The FP monitoring function can be used only when the FP monitoring screen is set (stored) in GT. Note that the FP monitoring screen uses the user's memory (F-ROM) of GT.

## Multiple GT displays can be connected to our FP series PLC.

### GT link function

Up to 32 GT displays can be connected to one PLC unit without communication programs. The same screen operation is possible at a conveyor line or other remote locations, and the number of PLC units can be reduced, cutting the production process costs.

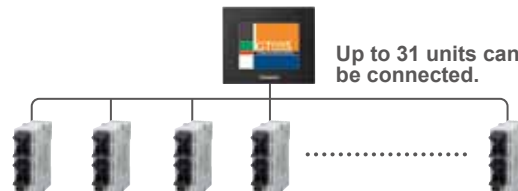


Notes: 1) Our FP series PLC

2) As the number of connected units increases, the response slows down. Check the speed in the actual line.

### Connectivity with multiple PLCs

Up to 31 PLC units can be connected to one GT unit. Progress in multiple production lines can be centrally monitored and controlled via one GT unit.



## Enhanced security with password protection

Password protection and operation security functions protect the data asset in the display unit and control the authorization for operation.

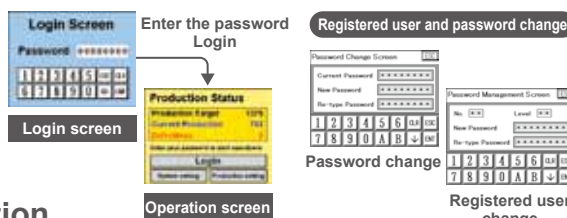
### Password protection function

The screen data upload operation can be restricted by using passwords to protect the data asset in the display unit.



### Operation security function

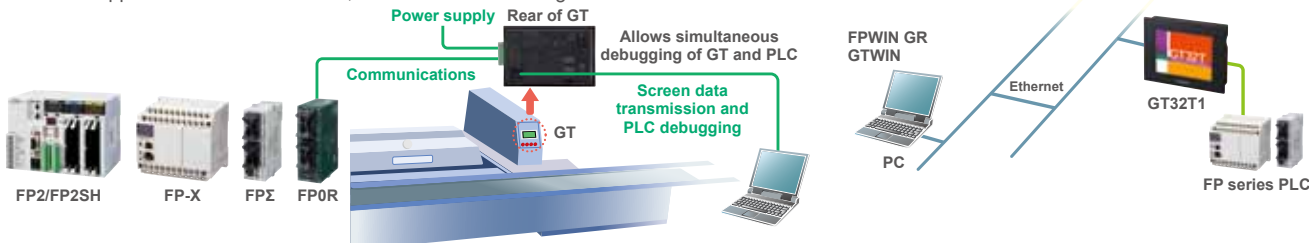
Up to 64 operators can set individual passwords, and up to 16 levels of restrictions can be set on displays and operations for each part. The registered users and passwords can be changed on the display unit.



## High-efficiency operation with through function

This function allows operators to simultaneously carry out the transfer of screen data of a GT series display and the debugging of our FP series PLC connected to the display.

GT32T1 supports Ethernet connection, which allows the through function to be controlled from a remote location.



## Easy-to-switch language

Conventionally, screens were created for each language. With this new language switching function, data can be registered in multiple languages (up to 16) for each part. The characters can be easily edited with Microsoft Excel® and then imported.

	Japanese	English	Simplified Chinese	Traditional Chinese	Korean
000 SW0	日本語	English	简体中文	繁體中文	한국어
000 SW0	ありがとうございます	Thank you	热烈欢迎	热烈欢迎	안녕하세요
000 SW1	1	1	1	1	1
000 SW1	2	2	2	2	2

## Write device function

This function modifies the PLC data or turns bits on/off according to the PLC status or the screen No. Now four arithmetic operations between devices are also possible.



# GT32-E

Programmable Display

Outdoor Use Made Possible by Significantly Improved Environmental Resistance and Visibility

5.7 inch  

Tough series

Silver



GT32T-E

GT32T-E

**5.7 inch, 4,096 colors TFT color LCD equipped with long life LED backlight**

GT32M-E

**5.7 inch, 16-gray scale TFT monochrome LCD equipped with long life LED backlight**

Common features

### Superior visibility even in sunlight

The brightness, contrast ratio, and viewing angle have been improved.

### Wide range of operating temperature that covers outdoor use

The improved environmental resistance allows for use in a wider operating temperature range of -20 °C to +60 °C -4 °F to +140 °F.

### UV Resistant, Anti-glare front panel

A front protection layer reduces the intensity of UV rays and has an anti-glare coating.

### Impressive water resistance makes usage possible in areas prone to water contact.

The front panel of the GT-E series is IP67 rated with added protection applied to the rear of the unit for a more rugged overall construction.

### Built-in SD/SDHC memory card slot \*1

Easy to copy, back up, and restore screen data.

### Integrated USB Interface

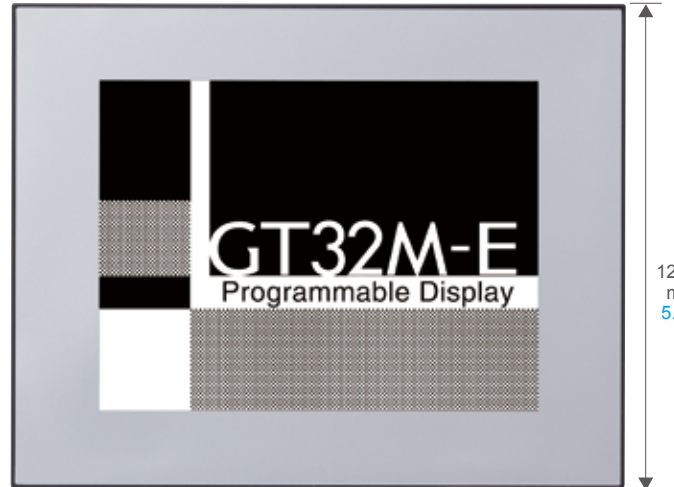
You can connect your PC and GT32-E using your USB cable to transfer screen data.

When used with our FP series PLC, this display supports the pass through function, which allows simultaneous debugging of the PLC and the display

### Transformer-isolated power supply

The isolated power supply enhances the reliability.

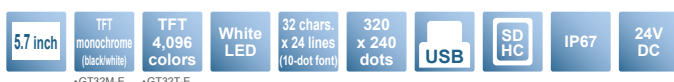
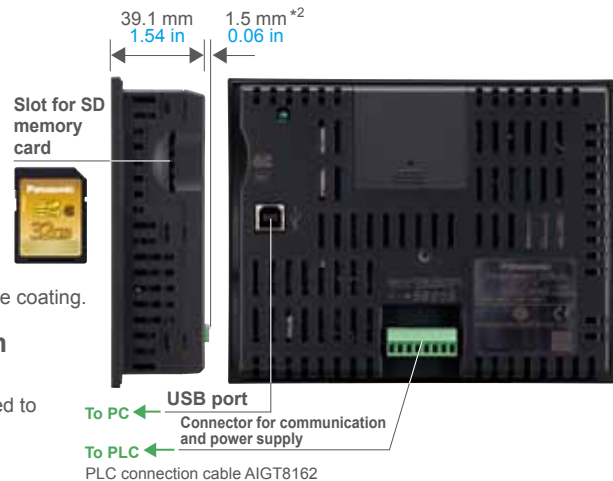
Silver



GT32M-E

163.2 mm  
6.43 in

128.8 mm  
5.07 in



\*1 Class 10 Compatible with a card of up to 32 GB.

\*2 Note that the communication and power supply connector projects an additional 1.5 mm 0.06 in. Also take the cable diameter must be taken into account.



## Superior visibility even in sunlight

### Color type



New model GT32T-E

Conventional model GT32T

### Monochrome type



New model GT32M-E

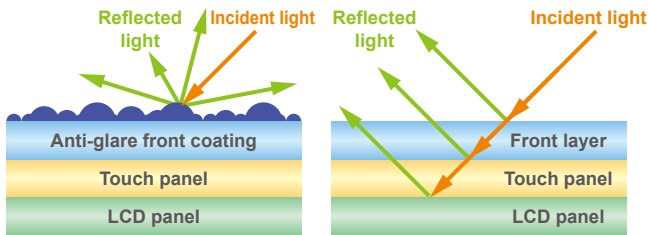
Conventional model GT32M

- **High contrast LCD:** Achieved higher contrast and visibility.
- **High brightness backlight:** Achieved greater brightness and visibility than the conventional model.

## Anti-glare, High visibility display

- **A front protection layer has an anti-glare coating to prevent unwanted reflections**

(Fingerprints are made less noticeable even in outdoor use)



Anti-glare front coating

No anti-glare front coating

### Comparison of reflection



New model GT32T-E

Conventional model GT32M

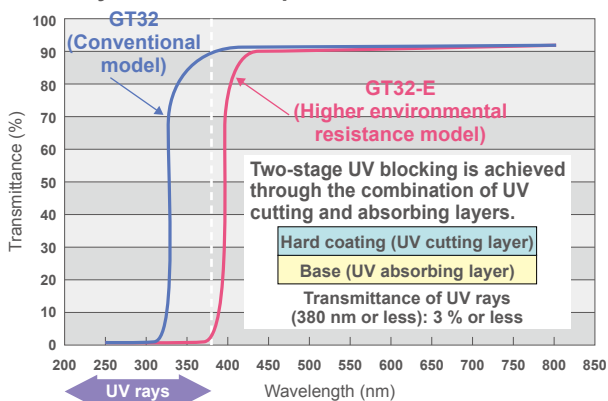
• The LCD pictures are screen captures of actual displays.

## No risk of product deterioration due to UV exposure

- The front sheet is made of a material that does not transmit UV rays.
- A combination of a UV cutting layer and a UV absorbing layer performs two-stage UV blocking.

The LCD and touch panel can be protected from deterioration.

### UV ray transmittance performance



## Excellent water resistance

- The front panel has a protective structure rated IP67. Safe to use outdoors or in a location exposed to splashing water.
- Added protection has been applied to the rear of the unit for a more rugged overall construction.

## Wide operating temperature range

- Usable in a range of  $-20\text{ }^{\circ}\text{C}$  to  $+60\text{ }^{\circ}\text{C}$   $-4\text{ }^{\circ}\text{F}$  to  $+140\text{ }^{\circ}\text{F}$  ( $-20\text{ }^{\circ}\text{C}$  to  $+55\text{ }^{\circ}\text{C}$   $-4\text{ }^{\circ}\text{F}$  to  $+131\text{ }^{\circ}\text{F}$  when horizontally installed)
- The TFT LCD can quickly switch screens even at a low temperature.
- The life of the LED backlight does not decrease even at a low temperature.
- It is not necessary to prepare a heater for use at a low temperature.



## Reduced power consumption

- Color type (GT32T-E): 7.2 W or less
- Monochrome type (GT32M-E): 4.8 W or less

# GT02L

Compact Programmable Display

Entry-level Touch Panel

3.7 inch  

Entry-level model

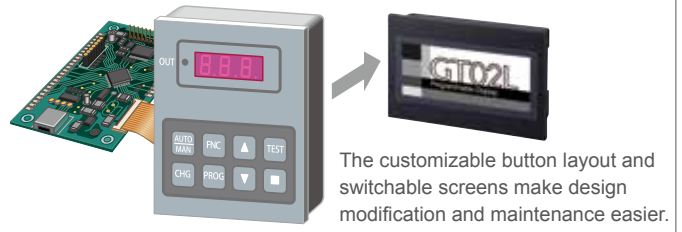
Black



### For replacing your touch panel



### For replacement of your membrane-type switch panel



## Compact body with a wide LCD that is the largest size in its class

The small body of 74 mm 2.91 in high and 112 mm 4.41 in wide is equipped with a 3.7 inch large LCD. The analog touch system does not display any annoying visible dots or lines.

## MiniUSB interface as standard equipment

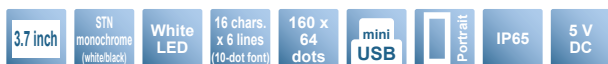
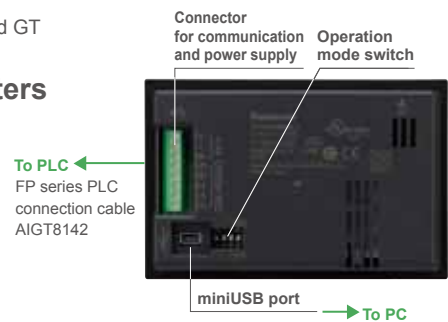
Supports the through function using a USB cable, allowing simultaneous debugging of PLC and GT

## Flexible sizing and layout available for switches and characters

Switches of a minimum of 8 x 8 dots can be moved in increments of one dot. A wide range of character fonts and sizes (10 to 64 dots) are supported.

## Portrait orientation ideal for narrow spaces

Installation in narrow spaces is possible, enhancing the degree of system design freedom.



• The panel face protection sheet for the GT series is available as an option.

• The LCD images on this page are composites.

# GT02

Compact Programmable Display

Compact advanced display with 3.8 inch high-contrast monochrome LCD (for clear and vivid images)

3.8 inch  

GT series

Pure black



GT02G

Hairline silver



GT02M  
112 mm  
4.41 in

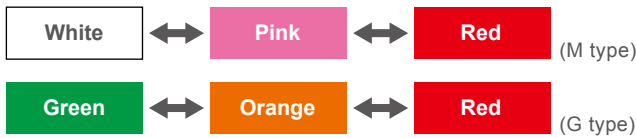
74 mm  
2.91 in

## Largest 3.8 inch high-contrast monochrome LCD in its class provides top-level viewability\*1.

High-definition 240 x 96 dots LCD produces crisp images. The analog touch screen technology does not display any annoying visible dots or lines.

## Bright three-color LED backlight indicates the equipment status.

The color combination is green/orange/red or white/red/pink. The backlight ensures both operability and visibility.



27 mm  
1.06 in



Connector for communication and power supply

Battery case

## First SD / SDHC memory card slot in its class\*2

AIG02MQ2\*D and AIG02GQ2\*D are equipped with an SD / SDHC memory card slot. Easy to copy, back up, and restore screen data.

To PLC  
FP series PLC connection cable AIGT8162 and AIGT8142



Slot for SD memory card

miniUSB port → To PC

## MiniUSB interface as standard equipment

Supports the through function using a USB cable, allowing simultaneous debugging of PLC and GT.

## Flexible sizing and layout available for switches and characters

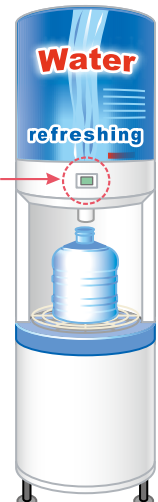
Switches of a minimum of 8 x 8 dots can be moved in increments of one dot. A wide range of character fonts and sizes (10 to 96 dots) are supported.

## Equipped with IP67-rated body and newly designed bracket

## Portrait orientation ideal for narrow spaces

Installation in narrow spaces is possible, enhancing the degree of system design freedom.

Application example: Water purifier



\*1 Based on internal research as of Jan. 1, 2011



\*2 Class 10 Compatible with a card of up to 32 GB.

• The panel face protection sheet for the GT series is available as an option.

# GT12

Compact Programmable Display

Slim body equipped with a 4.6 inch Half-QVGA LCD  
The highest visual quality in its class

4.6 inch  

GT series

Pure black



GT12M

Hairline silver



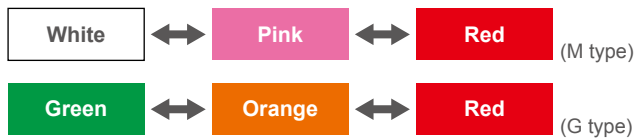
GT12G

**Largest 4.6 inch high-contrast monochrome Half-QVGA LCD in its class provides top-level viewability\*1.**

High-definition Half-QVGA (320 x 120) LCD produces crisp images. The analog touch screen technology does not display any annoying visible dots or lines.

**Bright three-color LED backlight indicates the equipment status.**

The color combination is green/orange/red or white/red/pink. The backlight ensures both operability and visibility.



**First SD / SDHC memory card slot in its class\*2**

AIG12MQ1\*D and AIG12GQ1\*D are equipped with an SD / SDHC memory card slot. Easy to copy, back up, and restore screen data.

**MiniUSB interface as standard equipment**

Supports the through function using a USB cable, allowing simultaneous debugging of PLC and GT.

**Flexible sizing and layout available for switches and characters**

Switches of a minimum of 8 x 8 dots can be moved in increments of one dot. A wide range of character fonts and sizes (10 to 120 dots) are supported.

**Transformer-isolated power supply**

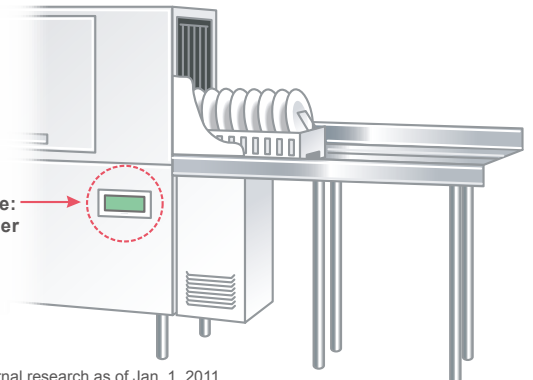
The isolated power supply enhances the reliability.

**Equipped with IP67-rated body and newly designed bracket**

**Portrait orientation ideal for narrow spaces**

Installation in narrow spaces is possible, enhancing the degree of system design freedom.

Application example: Business dishwasher



\*1 Based on internal research as of Jan. 1, 2011

\*2 Class 10 Compatible with a card of up to 32 GB.

• The panel face protection sheet for the GT series is available as an option.

# GT05

Compact Programmable Display

Compact size and equipped with a QVGA LCD.

Both the color and monochrome types display striking images.

3.5 inch



GT series

Pure black



GT05M

Hairline silver



GT05G

Pure black



GT05S

92.2 mm  
3.63 in

110 mm  
4.33 in



GT05M: red



GT05M: pink



GT05G: orange



GT05G: red

## GT05M/GT05G

**3.5 inch high-contrast monochrome QVGA LCD provides higher visibility than our conventional model.**

### Bright LED backlight adopted

GT05M displays screens in white, red, and pink, and GT05G in green, orange, and red, ensuring both operability and visibility.

#### Common features

### SD / SDHC memory card slot as standard equipment\*1

Easy to copy, back up, and restore screen data.

### USB interface as standard equipment

Supports the through function using a USB cable, allowing simultaneous debugging of PLC and GT

### Characters of a 240 dots maximum size can be displayed.

Capable of displaying several fine 10-dot characters or one 240 dots character in full screen

### Transformer-isolated power supply

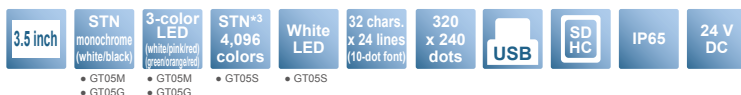
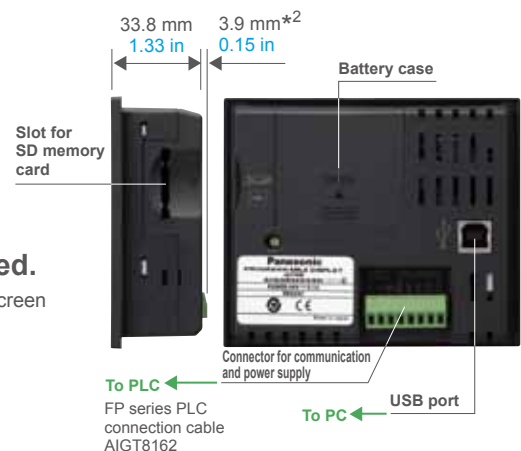
The isolated power supply enhances the reliability.

## GT05S

**3.5 inch STN\*3 4,096 colors QVGA LCD with a wide viewing angle**

A wide viewing angle (50 deg horizontally, 60 deg vertically) has been achieved, improving visibility from different angles.

### Bright LED backlight adopted



\*1 Class 10 Compatible with a card of up to 32 GB.

\*2 Note that the communication and power supply connector projects an additional 3.9 mm 0.15 in.

Also take the cable diameter must be taken into account.

\*3 Display device of GT05S will be changed to TFT color LCD from production in December 2011.

• The panel face protection sheet for the GT series is available as an option.

# GT32M

Programmable Display

Clear and beautiful display achieved by the blue LCD long-life backlight

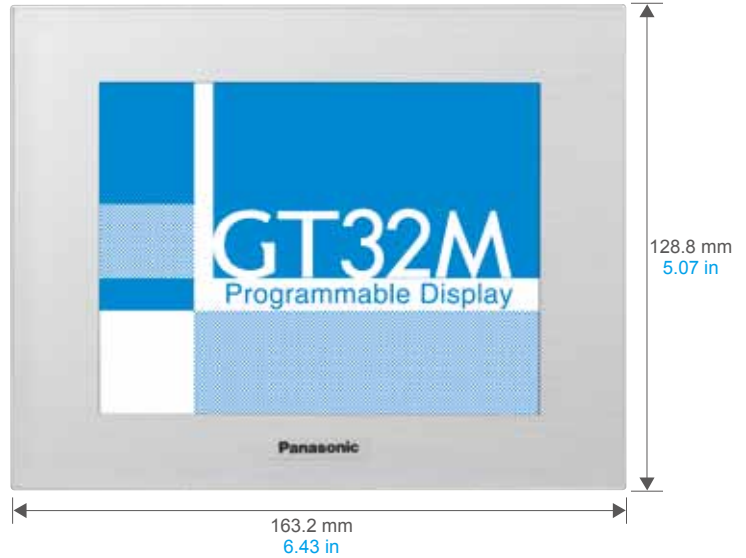
5.7 inch  

GT series

Pure black



Hairline silver



## 5.7 inch blue LCD equipped with 75,000 hours long life backlight

Although the backlight is a CFL type, it can last as long as 75,000 hours \*1, reducing maintenance frequency.\*2

## Industry's smallest size in the class, and 39.1 mm 1.54 in thin and cool body design

Large display with space-saving outer dimensions of 163.2 x 128.8 x 39.1 mm 6.43 x 5.07 x 1.54 in

## SD / SDHC memory card slot as standard equipment\*3

Easy to copy, back up, and restore screen data.

## USB interface as standard equipment

You can connect your PC and GT32 using your USB cable to transfer screen data.

When used with our FP series PLC, this display supports the through function, which allows simultaneous debugging of the PLC and the display.

## Transformer-isolated power supply

The isolated power supply enhances the reliability.



\*1 The backlight life varies depending on the environmental conditions of use, including the temperature, humidity, and operating voltage.

\*2 The backlight type for GT32M cannot be changed.

\*3 Class 10 Compatible with a card of up to 32 GB.

\*4 Note that the communication and power supply connector projects an additional 5.2 mm 0.21 in. Also take the cable diameter must be taken into account.

• The panel face protection sheet for the GT series is available as an option.

# GT32T

Programmable Display

Amazingly beautiful and vivid  
4,096 colors TFT LCD

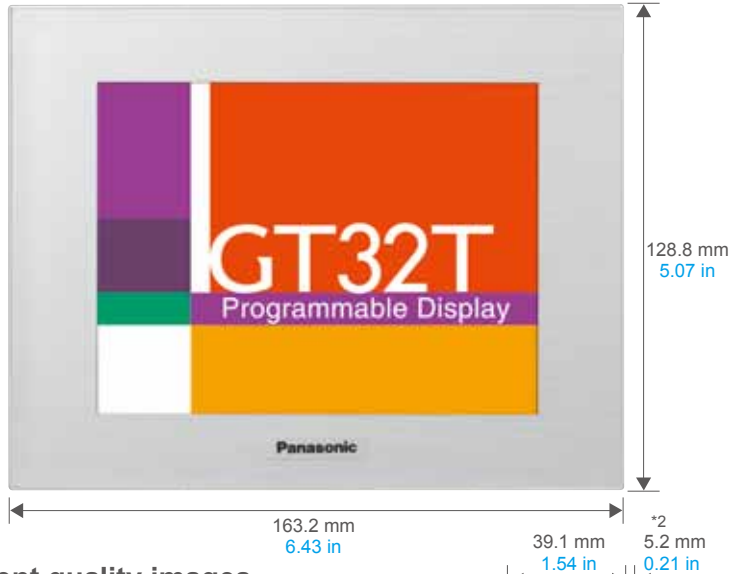
5.5 inch  

GT series

Pure black



Hairline silver



4,096 colors TFT LCD screen displays magnificent quality images.

Industry's smallest size in the class, and 39.1 mm 1.54 in thin and cool body design

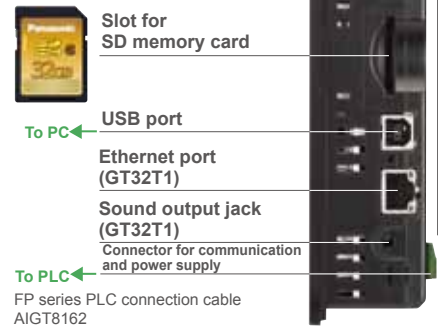
**SD / SDHC memory card slot as standard equipment\*1**

Useful for copying, backing up, and restoring screen data, and for saving sound files. Sound files can also be saved in the internal memory of the display.

**USB interface as standard equipment**

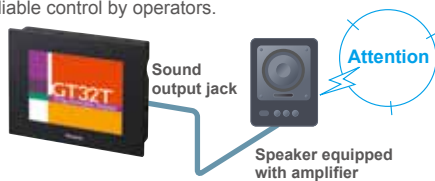
**Transformer-isolated power supply**

**GT32T1 supports:**



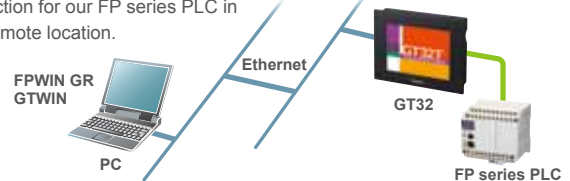
### Sound output function

Audio information as well as visual and tactile information allows for more reliable control by operators.



### Ethernet connection

GT32T1 supports Ethernet connection, allowing for the through function for our FP series PLC in a remote location.



• GT32T1 • GT32T1

\*1 Class 10 Compatible with a card of up to 32 GB.

\*2 Note that the communication and power supply connector projects an additional 5.2 mm 0.21 in. Also take the cable diameter must be taken into account.

• The panel face protection sheet for the GT series is available as an option.

# GTWIN Ver.2

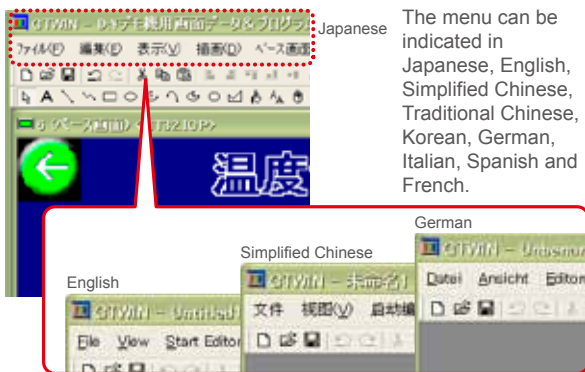
Screen Creation Tool for the GT series

User-friendly interface  
makes screen creation easier.



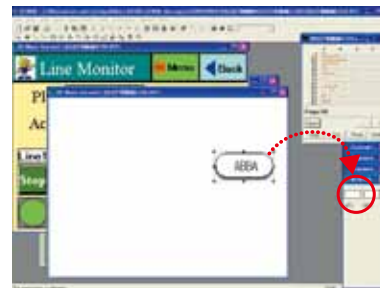
## Compatible with Windows®7

### Compatible with the nine languages for the menu



The menu can be indicated in Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish and French.

## Just drag-and-drop your original parts to be registered.



You can also register your preset original parts easily by drag-and-drop operations.

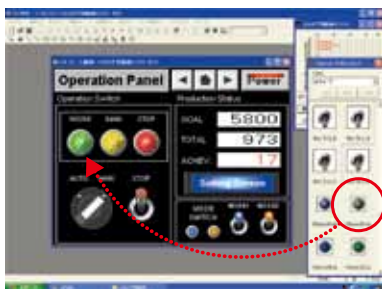
## 4,096 colors 3D design buttons

(for GT05S, GT32T and GT32T-E)



3D design buttons with higher visibility and operability are available.

## Simply drag-and-drop parts.



You can easily create screens by just dragging parts from the library and dropping them anywhere you want.

## Screen copy in bitmap form

You can output screen images in bitmap form and use them in off-the-shelf applications. This is useful for preparing equipment operation manuals.

## More user-friendly parts libraries



In the previous version, the required parts library had to be selected from the menu every time it was needed. The new version displays a list of parts libraries, making them more user-friendly. You can also freely set the parts library window size.

## Function to turn on/off the display of keyboard parts on the base screen

## Indications of data parts in Japanese, Simplified chinese, Traditional chinese, and Korean



\* Windows®: The 64-bit version is not supported.  
• GTWIN Ver. 2.8 or later is not compatible with Windows® 95, 98, Me or NT.



# GTseries | PLC Compatibility Table

Models listed are the models that have been evaluated as of July, 2011.

Company	Series	Model	GT02(L), GT05, GT12, GT32		
			RS232C type	RS422/RS485 type*2	
Panasonic Electric Works SUNX	FP series	FP-X	⊙	○	
		FPΣ	⊙	○	
		FP-e	⊙	○	
		FP0	⊙	○	
		FP0R	⊙	○	
		FP2	⊙	○	
		FP2SH	⊙	○	
Mitsubishi Electric*1	FX series	FX0N	○	⊙	
		FX1S	○	⊙	
		FX1N	○	⊙	
		FX1NC	○	⊙	
		FX2N	○	⊙	
		FX2NC	○	⊙	
		FX3UC	○	⊙	
		FX3U	○	⊙	
		FX3G	○	⊙	
		Mitsubishi Electric*1	Q series	Q00CPU	⊙
Q01CPU	⊙				
Q00JCPU	○				
Q00HCPU	○				
Q00JCPU	⊙				
Q26UDHCPU	○			○	
Q25HCPU	⊙				
Q12HCPU	⊙				
Q06HCPU	⊙				
Q02HCPU	⊙				
Mitsubishi Electric*1	A series	A1N	○		
		A2N	○		
		A3N	○		
		A1S	○		
		A1SJ	○		
		A2SH	○		
		A1SH	○		
		A2CCPU24	⊙		
Mitsubishi Electric*1	L series	L26CPU-BT	○	○	
Omron*1	C series	C200H	○		
		C200HS	⊙		
		C500	○		
		C500F	○		
		C1000H	○		
		C2000	○		
		C2000H	○		
		C1000HF	○		
		C20H	⊙		
		C28H	⊙		
		C40H	⊙		
		C120	○		
		C120F	○		
		CQM1-CPU42	⊙		
		SRM1-C02	⊙		
		CPM2A	⊙		
		CPM1-20CDR-A	○		
		CQM1H-CPU21	⊙		
		CPM2C	⊙		
		CPM2B	⊙		
	Omron*1	α series	C200HE-CPU32-Z	○	
			C200HE-CPU32	○	
			C200HG-CPU33-Z	○	
			C200HG-CPU33	○	
			C200HG-CPU53-Z	○	
			C200HG-CPU53	○	
			C200HX-CPU34-Z	○	
			C200HX-CPU34	○	
			C200HX-CPU54-Z	○	
			C200HX-CPU54	○	
Omron*1	CV series	C200HE-CPU42-Z	⊙		
		C200HE-CPU42	⊙		
		C200HG-CPU43-Z	⊙		
		C200HG-CPU43	⊙		
		C200HG-CPU63-Z	⊙		
		C200HG-CPU63	⊙		
		C200HX-CPU44-Z	⊙		
		C200HX-CPU44	⊙		
		C200HX-CPU64-Z	⊙		
		C200HX-CPU64	⊙		
		C200HX-CPU65-Z	⊙		
		C200HX-CPU85-Z	⊙		
		CV500	⊙		
		CV1000	⊙		
		CVM1	⊙		

Company	Series	Model	GT02(L), GT05, GT12, GT32		
			RS232C type	RS422/RS485 type*2	
Omron*1	CS1 series	CS1H-CPU67	⊙		
		CS1H-CPU66	⊙		
		CS1H-CPU65	⊙		
		CS1H-CPU64	⊙		
		CS1H-CPU63	⊙		
		CS1G-CPU45	⊙		
		CS1G-CPU44	⊙		
		CS1G-CPU43	⊙		
		CS1G-CPU42	⊙		
	CJ series	CJ1H	⊙		
		CJ1M	⊙		
		CJ1G	⊙		
	CP1 series	CJ2H	⊙		
CP1H		○			
CP1L		○			
		CP1E	⊙*4	○	
Toshiba Machine*1	TC mini series		⊙	⊙	
			Models with RS232C port	Models with RS485 port	
Yokogawa Electric*1	FA-M3 series	F3SP59-7S	⊙		
		F3SP58-6S	⊙		
		F3SP58-6H	⊙		
		F3SP53-4S	⊙		
		F3SP53-4H	⊙		
		F3SP38-6S	⊙		
		F3SP38-6N	⊙		
		F3SP35-5N	⊙		
		F3SP28-3S	⊙		
		F3SP28-3N	⊙		
F3SP25-2N	⊙				
F3SP21-0N	⊙				
KEYENCE*1	KV series	KV-10/16/24/40	⊙		
		KV700	⊙	○	
		KV1000	⊙	○	
		KV3000	⊙	○	
		KV5000	○	○	
Hitachi Industrial Equipment Systems*1	EH-150 EHV series	EHV-CPU128	⊙	⊙	
		EHV-CPU64	⊙	⊙	
		EHV-CPU32	⊙	⊙	
		EHV-CPU16	⊙	⊙	
	EH150 series	EH-CPU104A	⊙	⊙	
		EH-CPU208A	⊙	⊙	
		EH-CPU316A	⊙	⊙	
		EH-CPU516	⊙	⊙	
			EH-CPU548	⊙	⊙
	MICRO-EH series	10-point			
		14-point	⊙		
		20-point	⊙		
		23-point	⊙		⊙
		28-point	⊙		⊙
		64-point	⊙		
Web controller	10-point	⊙			
	23-point	⊙		⊙	
Rockwell Automation*1 (Allen-Bradley) Models that support protocol	MicroLogix series	MicroLogix500	⊙		
		MicroLogix1000	⊙		
		MicroLogix1100	⊙		
SLC-500 series	SLC-5/03	⊙			
	SLC-5/04	⊙			
Siemens*1	S7-200 series	CPU222	○	⊙	
		CPU216	○	⊙	
		CPU215	○	⊙	
		CPU214	○	⊙	
		CPU212	○	⊙	
LS Industrial Systems*1	MASTER-K series	80S	⊙		
		200S	⊙		
		300S	○		
		1000S	○		
Modbus*1	Models that support RTU protocol	*3	⊙	⊙	
General-purpose serial	Our dedicated protocol	*3	⊙	⊙	

\*1 PLCs other than Panasonic Electric Works SUNX FP series may be limited in the type of device that can be used and addresses. Please see manual for details.

\*2 Communication may not be possible when using RS485 depending on the sending and receiving timing with the other device.

\*3 We cannot specify what other device you should use; therefore, please test it using the actual equipment before using.

\*4 Available for models equipped with on RS232C port.

⊙: Direct connection is possible to the CPU unit of the PLC.

○: Connection is possible using the communications unit or a signal conversion cable, etc.

(Example: The QJ71C24N or QJ71C24N-R2 calculator link unit is required when using the Mitsubishi Q Series.)

×: Connection is not possible

Blank: Not evaluated.

Refer to the "Technical Support Page" of our website (<http://panasonic-denko.co.jp/ac/e>) for details, including the latest version of Terminal GTWIN, usable devices and addresses.

## Main Unit and Tool Software

Product name	Description					Part number			
	LCD	Power supply	Communication port	Color of front panel	SD memory card slot				
GT32M-E (Tough Series)	TFT monochrome LCD	24 V DC	RS232C	Silver	Available	AIG32MQ03DE			
			RS422 / RS485			AIG32MQ05DE			
GT32T-E (Tough Series)	TFT color LCD	24 V DC	RS232C	Silver	Available	AIG32TQ03DE			
			RS422 / RS485			AIG32TQ05DE			
GT02L	STN monochrome LCD (white backlight)	5 V DC	RS232C	Black	Not available	AIG02LQ02D			
			RS422 / RS485			AIG02LQ04D			
GT02M	STN monochrome LCD (white/pink/red backlight)	5 V DC	RS232C	Pure black	Not available	AIG02MQ02D			
				Hairline silver		AIG02MQ03D			
			RS422 / RS485	Pure black		AIG02MQ04D			
			Hairline silver	AIG02MQ05D					
		24 V DC	RS232C	Pure black		AIG02MQ12D			
				Hairline silver		AIG02MQ13D			
RS422 / RS485	Pure black		AIG02MQ14D						
	Hairline silver	AIG02MQ15D							
GT02G	STN monochrome LCD (green/orange/red backlight)	5 V DC	RS232C	Pure black	Not available	AIG02GQ02D			
				Hairline silver		AIG02GQ03D			
			RS422 / RS485	Pure black		AIG02GQ04D			
			Hairline silver	AIG02GQ05D					
		24 V DC	RS232C	Pure black		AIG02GQ12D			
				Hairline silver		AIG02GQ13D			
RS422 / RS485	Pure black		AIG02GQ14D						
	Hairline silver	AIG02GQ15D							
GT05M	STN monochrome LCD (white/pink/red backlight)	24 V DC	RS232C	Pure black	Available	AIG05MQ02D			
				Hairline silver		AIG05MQ03D			
			RS422 / RS485	Pure black		AIG05MQ04D			
			Hairline silver	AIG05MQ05D					
		GT05G	STN monochrome LCD (green/orange/red backlight)	24 V DC		RS232C	Pure black	Available	AIG05GQ02D
							Hairline silver		AIG05GQ03D
RS422 / RS485	Pure black				AIG05GQ04D				
	Hairline silver	AIG05GQ05D							
GT05S	STN color LCD *1	24 V DC	RS232C	Pure black	Available	AIG05SQ02D			
				Hairline silver		AIG05SQ03D			
			RS422 / RS485	Pure black		AIG05SQ04D			
	Hairline silver	AIG05SQ05D							
GT12M	STN monochrome LCD (white/pink/red backlight)	24 V DC	RS232C	Pure black	Not available	AIG12MQ02D			
				Hairline silver		AIG12MQ03D			
			RS422 / RS485	Pure black	Not available	AIG12MQ04D			
				Hairline silver		AIG12MQ05D			
GT12G	STN monochrome LCD (green/orange/red backlight)	24 V DC	RS232C	Pure black	Available	AIG12MQ12D			
				Hairline silver		AIG12MQ13D			
			RS422 / RS485	Pure black	Available	AIG12MQ14D			
				Hairline silver		AIG12MQ15D			

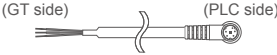
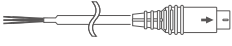

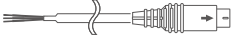
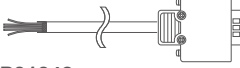
\*1 Display device of GT05S will be changed to TFT color LCD from production in December 2011.

## Main Unit and Tool Software

Product name	Description					Part number
	LCD	Power supply	Communication port	Color of front panel	SD memory card slot	
GT32M	STN monochrome LCD	24 V DC	RS232C	Pure black	Available	AIG32MQ02D
				Hairline silver		AIG32MQ03D
			RS422 / RS485	Pure black	Available	AIG32MQ04D
				Hairline silver		AIG32MQ05D
GT32T0	TFT color LCD	24 V DC	RS232C	Pure black	Available	AIG32TQ02D
				Hairline silver		AIG32TQ03D
			RS422 / RS485	Pure black	Available	AIG32TQ04D
				Hairline silver		AIG32TQ05D
GT32T1	TFT color LCD	24 V DC	RS232C	Pure black	Available	AIG32TQ12D
				Hairline silver		AIG32TQ13D
			RS422 / RS485	Pure black	Available	AIG32TQ14D
				Hairline silver		AIG32TQ15D
Terminal GTWIN Ver.2	Japanese version	Terminal GTWIN CD-ROM			AIGT8000V2	
	English version	Terminal GTWIN CD-ROM			AIGT8001V2	
Terminal GTWIN Ver.2 Upgrade version *	Japanese version	Terminal GTWIN CD-ROM			AIGT8000V2R	
	English version	Terminal GTWIN CD-ROM			AIGT8001V2R	

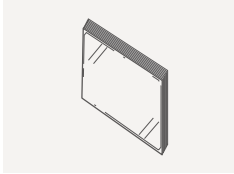
\* For upgrading Terminal GTWIN Ver. 1 to Ver. 2.

## Cables | PLC connection cable

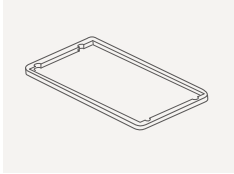
Power supply and communication port	Connection cable	PLC
5 V DC and RS232C	 <p>Part No.: <b>AIGT8142*</b>, PLC connection cable (2 m 6.6 ft), 5-pin mini DIN connector — 4 single wires + Shielding wire</p>	<b>Our FP Series</b>
5 V DC and RS422 / RS485	 <p>Part No.: <b>AIGT8152*</b>, PLC connection cable (2 m 6.6 ft), 8-pin mini DIN connector — 6 single wires + Shielding wire</p>	<b>Mitsubishi Electric FX Series</b>
24 V DC and RS232C	 <p>Part No.: <b>AIGT8162</b>, PLC connection cable (2 m 6.6 ft), 5-pin mini DIN connector — 3 single wires + Shielding wire  <b>AIGT8165</b> (5 m 16.4 ft) and <b>AIGT8160</b> (10 m 32.8 ft) are also available.</p>	<b>Our FP Series</b>
24 V DC and RS422 / RS485	 <p>Part No.: <b>AIGT8175*</b>, PLC connection cable (5 m 16.4 ft), 8-pin mini DIN connector — 4 single wires + Shielding wire</p>	<b>Mitsubishi Electric FX Series</b>
24 V DC and RS232C	 <p>Part No.: <b>AIP81842</b>, PLC connection cable (2 m 6.6 ft), 9-pin D-SUB connector — 6 single wires</p>	<b>FP2/FP2SH COM port, 9-pin D-SUB connector example, CCU</b>

\*This cable is for GT series (5 V DC), and power is supplied through the TOOL port.

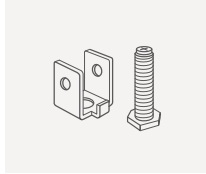
## Options



■ **Panel face protection sheets**  
10 sheets in a set (option)



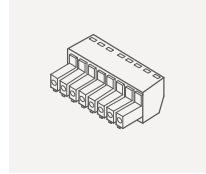
■ **Waterproof packing**  
Waterproof packing (for replacement), 10 pieces in a set  
Package includes one piece.



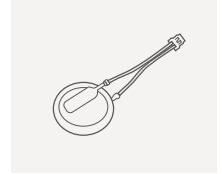
■ **GT02 / GT02L / GT12 mounting parts**  
5 sets of mounting parts  
(4 parts / set)  
Package includes one set.



■ **GT05 / GT32 / GT32-E mounting parts**  
5 sets of mounting parts  
(2 parts / set)  
Package includes one set.



■ **Spare connector**  
5 connectors for communication and power supply in a set  
Package includes one set.



■ **GT02 / GT05 / GT12 / GT32 / GT32-E backup battery**

<b>GT02L / GT02</b>	Part No.: <b>AIG02800</b>
<b>GT05</b>	Part No.: <b>AIG05800</b>
<b>GT12</b>	Part No.: <b>AIG12800</b>
<b>GT32</b>	Part No.: <b>AIG32800</b>

<b>GT02L / GT02</b>	Part No.: <b>AIG02810</b>
<b>GT05</b>	Part No.: <b>AIG05810</b>
<b>GT12</b>	Part No.: <b>AIG12810</b>
<b>GT32</b>	Part No.: <b>AIG32810</b>
<b>GT32-E</b>	Part No.: <b>AIG32810E</b>

Part No.: <b>AIG12830</b> For <b>GT02 / GT02L / GT12</b>
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Part No.: <b>AIGT28321</b> For <b>GT05</b>
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Part No.: <b>AIGT084</b>
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Part No.: <b>AFPX-BATT</b>
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Part No.: <b>AIG32830</b> For <b>GT32 / GT32-E</b>
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\* The waterproof packing for GT02(L) is different from the GT02L main unit accessory.

Item	GT32M-E		GT32T-E	
	RS232C	RS422/RS485	RS232C	RS422/RS485
Rated voltage	24 V DC			
Operating voltage range	21.6 to 26.4 V DC			
Power consumption	4.8 W or less		7.2 W or less	
Power supply unit isolation method	Transformer isolation			
Ambient temperature	-20 to +60 °C <b>-4 to +140 °F</b> *5			
Ambient humidity	10 to 90 %RH (at 25 °C <b>77 °F</b> ), No condensation			
Storage temperature	-20 to +60 °C <b>-4 to +140 °F</b>			
Storage humidity	10 to 90 %RH (at 25 °C <b>77 °F</b> ), No condensation			
Vibration resistance	5 to 8.4 Hz, amplitude: 3.5 mm <b>0.14 in</b> , 8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup> , 10 sweeps each in X, Y and Z directions (1 octave / min.)			
Shock resistance	147 m/s <sup>2</sup> , 3 times in each of the X, Y and Z directions			
Superposed noise suppression	1,000 V [P-P] or more, pulse width of 50 ns, 1 μs between power supply terminals (by a noise simulator)			
Environmental resistance	IP67 (in the initial stages), Dust-proof and drip-proof from the front of the panel only (Rubber packing is attached to the panel contact surface.) *1			
Mass	470 g approx.			
Display	Display device	TFT monochrome LCD		TFT color LCD
	Resolution	320 (W) x 240 (H) dots		
	Display color	2 colors (black/white, 16-gray scale)		4096 colors
	Displayable area	115.2 (W) x 86.4 (H) mm <b>4.54 (W) x 3.40 (H) in</b>		
	Backlight	White LED		
Functions	Font types	Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height, True Type (GTWIN): 10 to 240 dots, Windows®: 10 to 240 dots		
	Languages	Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish, French, and Turkish		
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares, and Bitmaps		
	Number of screens *2	180 screens approx.		
	Screen setting No.	Base screens: No. 0 to 3FF, Key board screens: No. 0 to 7, Login screens: No. 0 to F		
	Part functions	Messages, Lamps, Switches, Function switches, Data, Bar graphs, Clocks, Keyboards, Line graphs, Alarm list, Alarm record, and Custom parts (messages, lamps, switches)		
	Other functions	Recipe, Flow display, Write device, Multiple PLC connection, FP monitor, Language switching, GT link, Operation security, Data logging, and SD recipe *3		
	Clock function	Provided with a built-in clock. (Can also refer to and display a PLC clock.) * Buy a commercially available battery.		
	Backlight brightness adjustment	Can be set on the menu screen, via the GT configuration screen of GTWIN, or via PLC.		
	Contrast adjustment	Contrast can be adjusted by using the touch panel.		
	Buzzer	Installed		
	Automatic communication settings	The communication speed (baud rate) is automatically changed if there is no response from the target equipment.		
	Through function	GT connected between PC and PLC allows PLC to be debugged without a direct connection to a PC.		
Screen creation	Dedicated software should be used. Applicable OS: Windows® 2000/XP/Vista/7 *6			
Touch key resolution	Free layout (8 dots min.)			
Touch key operation force	0.8 N or less			
Touch key life	1 million operations or more (at 25 °C <b>77 °F</b> )			
COM. port	Communication standard	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C
	External communication conditions	Baud rate: 9,600 bps, 19,200 bps, 38,400 bps, 57,600 bps, and 115,200 bps Data bits: 7 or 8 bits, Parity: None, Odd, Even, Stop bits: 1 bit		
	Protocol	Our FP series supported, General-purpose serial interface supported, and Other companies' PLC supported (Refer to the "PLC COMPATIBILITY TABLE" for manufacturers and models.)		
	Connector	Connector terminal block (8 pins)		
Screen data transfer interface	Communication standard	USB1.1		
	Communication conditions with PC	-		
	Protocol	Our dedicated protocol		
	Connector	USB TYPE-B		
User's memory	Memory	F-ROM		
	Capacity	12 Mbyte		
Memory backup	Memory	SRAM		
	Backup battery	Lithium battery (replaceable) AFPX-BATT *Does not come with product.		

## Conformance to the UL / cUL standards

UL / cUL file No.	E96300
UL standard No.	UL508

\*1 This protective structure condition applies to the front surface of the installed panel. This condition does not guarantee usage in all environments provided by users. When reattaching the panel, replace the waterproof packing.

\*2 The number of screens that can be registered varies according to the registered contents.

\*3 The data logging and SD recipe functions are available with only models equipped with an SD/SDHC memory card slot.

\*4 Simultaneous USB and Ethernet communications are not possible.

\*5 When the unit is being installed in a horizontal orientation, the usable range is -20 to +55 °C **-4 to +131 °F**.

\*6 Not compatible with any 64-bit version of Windows.

Item	GT02L		GT02				GT05M / GT05G		GT05S		
	5 V / RS232C	5 V / RS422 / RS485	5 V / RS232C	5 V / RS422 / RS485	24 V / RS232C	24 V / RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485	
Rated voltage	5 V DC				24 V DC						
Operating voltage range	4.5 to 5.5 V DC				21.6 to 26.4 V DC						
Power consumption	1 W or less				1.9 W or less		2.4 W or less		3.6 W or less		
Power supply unit isolation method	—				Transformer isolation						
Ambient temperature	0 to 50 °C <b>32 to 122 °F</b>										
Ambient humidity	20 to 85 % RH (at 25 °C <b>77 °F</b> ), No condensation										
Storage temperature	-20 to 60 °C <b>-4 to 140 °F</b>										
Storage humidity	10 to 85 % RH (at 25 °C <b>77 °F</b> ), No condensation										
Vibration resistance	5 to 8.4 Hz amplitude: 3.5 mm <b>0.14 in</b> , 8.4 to 150 Hz acceleration 9.8 m/s <sup>2</sup> , 10 sweeps each in X, Y and Z directions (1 octave/min.)					10 to 55 Hz (1 minute cycle): Double amplitude: 0.75 mm <b>0.03 in</b> , 10 minutes in each of the X, Y, and Z directions					
Shock resistance	147 m/s <sup>2</sup> , 3 times in each of the X, Y and Z directions					98 m/s <sup>2</sup> or more, 4 times in each of the X, Y, and Z directions					
Superposed noise suppression	1,000 V [P-P] or more, pulse width of 50 ns, 1 μs between power supply terminals (by a noise simulator)										
Environmental resistance	IP65 (in the initial stages) *1		IP67 (in the initial stages) *1				IP65 (in the initial stages) *1				
Mass	150g approx.		170g approx.				230g approx.				
Display	Display device	STN monochrome LCD				STN color LCD *2					
	Resolution	160 (W) × 64 (H) dots		240 (W) × 96 (H) dots				320 (W) × 240 (H) dots			
	Display color	2 colors (black/white)				4,096 colors					
	Displayable area	88.0 (W) × 35.2 (H) mm <b>3.46 (W) × 1.39 (H) in</b>		88.5 (W) × 35.4 (H) mm <b>3.48 (W) × 1.39 (H) in</b>				71.0 (W) × 53.3 (H) mm <b>2.80 (W) × 2.10 (H) in</b>			
	Backlight	White LED		GT02M: 3-color LED (white, pink, red) GT02G: 3-color LED (green, orange, red)				GT05M: 3-color LED (white, pink, red) GT05G: 3-color LED (green, orange, red)		White LED	
Functions	Font types	Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height, TrueType (GTWIN): 10 to 64 dots Windows®: 10 to 64 dots		Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots Characters can be displayed in the 1, 2, 4, or 8 times width or height. TrueType (GTWIN): 10 to 96 dots				Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height. TrueType (GTWIN): 10 to 240 dots, Windows®: 10 to 240 dots			
	Languages	Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish, French, and Turkish									
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares and Bitmaps									
	Number of screens *3	80 screens approx.		250 screens approx.				240 screens approx.		180 screens approx.	
	Screen setting No.	No. 0 to 3FF									
	Part functions	Messages, Lamps, Switches, Function switches, Data, Bar graphs, Clocks, Keyboards, Line graphs, Alarm list, and Custom parts (messages, lamps, switches)									
	Other functions	Recipe, Flow display, Write device, Language switching, GT link, Operation security, Data logging and SD recipe**									
	Clock function	—		Provided with a built-in clock. (Can also refer to and display a PLC clock.) *Buy a commercially available battery. Note: For the GT02 series, only GT02M2 and GT02G2 have a built-in clock.							
	Contrast adjustment	Contrast can be adjusted by using the touch panel.									
	Buzzer	—		Installed							
	Automatic communication settings	The communication speed (baud rate) is automatically changed if there is no response from the target equipment.									
Through function	GT connected between PC and PLC allows PLC to be debugged without a direct connection to a PC.										
Screen creation	Dedicated software should be used. Applicable OS: Windows® 2000/XP/Vista/7**										
Touch key resolution	Free layout (8 dots min.)										
Touch key operation force	0.8 N or less										
Touch key life	1 million operations or more (at 25 °C <b>77 °F</b> )										
COM. port	Communication standard	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485
	External communication conditions	Baud rate: 9,600 bps, 19,200 bps, 38,400 bps, 57,600 bps, and 115,200 bps Data bits: 7 or 8 bits, Parity: None, Odd, Even, Stop bits: 1 bit									
	Protocol	Our FP series supported, General-purpose serial interface supported, Other companies' PLC supported (Refer to the "PLC COMPATIBILITY TABLE" for manufacturers and models.)									
	Connector	Connector terminal block (8 pins)									
Screen data transfer interface	Communication standard	USB1.1									
	Communication conditions with PC	—									
	Protocol	Our dedicated protocol									
	Connector	USB Mini B				—				USB TYPE-B	
	Ethernet port *5	—									
User's memory	Memory	—				F-ROM				—	
	Capacity	704 Kbyte		—				2 Mbyte		12 Mbyte	
Memory backup	Memory	—				SRAM *6					
	Backup battery	—				Lithium battery (replaceable) AFPX-BATT (Does not come with product.)*6					

## Conformance to the UL / cUL standards

UL / cUL file No.	E96300
UL standard No.	UL508

\*1 This protective structure condition applies to the front surface of the installed panel. This condition does not guarantee usage in all environments provided by users. When reattaching the panel, replace the waterproof packing.

\*2 Display device of GT05S will be changed to TFT color LCD from production in December 2011.

\*3 The number of screens that can be registered varies according to the registered contents.

\*4 The data logging and SD recipe functions are available with only models equipped with an SD / SDHC memory card slot.

\*5 Simultaneous USB and Ethernet communications are not possible.

\*6 Among GT02 series, available for GT02M2 and GT02G2 only.

\*7 Not compatible with any 64-bit version of Windows®.

Item	GT12		GT32M		GT32T0		GT32T1		
	RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485	
Rated voltage	24 V DC								
Operating voltage range	21.6 to 26.4 V DC								
Power consumption	1.7 W or less		10 W or less			12 W or less			
Power supply unit isolation method	Transformer isolation								
Ambient temperature	0 to 50 °C 32 to 122 °F		0 to 50 °C 32 to 122 °F <sup>*5</sup>						
Ambient humidity	20 to 85 % RH (at 25 °C 77 °F), No condensation								
Storage temperature	-20 to 60 °C -4 to 140 °F								
Storage humidity	10 to 85 % RH (at 25 °C 77 °F), No condensation								
Vibration resistance	5 to 9 Hz amplitude: 3.5 mm 0.14 in, 9 to 150 Hz acceleration 9.8 m/s <sup>2</sup> , 10 sweeps each in X, Y and Z directions (1 octave/min)		10 to 55 Hz (1 minute cycle): Double amplitude: 0.75 mm 0.03 in, 10 minutes in each of the X, Y, and Z directions						
Shock resistance	147 m/s <sup>2</sup> , 3 times in each of the X, Y and Z directions		98 m/s <sup>2</sup> or more, 4 times in each of the X, Y, and Z directions						
Superposed noise suppression	1,000 V [P-P] or more, pulse width of 50 ns, 1 μs between power supply terminals (by a noise simulator)								
Environmental resistance	IP67 (in the initial stages) <sup>*1</sup>		IP65 (in the initial stages) <sup>*1</sup>						
Mass	240 g approx.		500 g approx.		470 g		480 g approx.		
Display	Display device	STN monochrome LCD			TFT color LCD				
	Resolution	320 (W) × 120 (H) dots			320 (W) × 240 (H) dots				
	Display color	2 colors (black/white, 8-gray scale)		2 colors (blue/white)		4,096 colors			
	Displayable area	108.8 (W) × 40.8 (H) mm 4.28 (W) × 1.61 (H) in		113.2 (W) × 86.4 (H) mm 4.46 (W) × 3.40 (H) in		110.8 (W) × 83.6 (H) mm 4.36 (W) × 3.29 (H) in			
Backlight	GT12M: 3-color LED (white, pink, red) GT12G: 3-color LED (green, orange, red)		CFL *Not replaceable. Average life for backlight: GT32M: 75,000 hours (at 25 °C 77 °F), GT32T: 50,000 hours (at 25 °C 77 °F)						
	Font types	Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots Characters can be displayed in the 1, 2, 4, or 8 times width or height. True Type (GTWIN): 10 to 120 dots		Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height. True Type (GTWIN): 10 to 240 dots, Windows®: 10 to 240 dots					
Functions	Languages	Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish, French, and Turkish							
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares and Bitmaps							
	Number of screens *2	2-gray scale: 250 screens approx., 8-gray scale: 200 screens approx.		240 screens approx.		180 screens approx.			
	Screen setting No.	No. 0 to 3FF							
	Part functions	Messages, Lamps, Switches, Function switches, Data, Bar graphs, Clocks, Keyboards, Line graphs, Alarm list, and Custom parts (messages, lamps, switches)							
	Other functions	Recipe, Flow display, Write device, Multiple PLC connection, FP monitor, Language switching, GT link, Operation security, Data logging and SD recipe <sup>*3</sup>						Sound output <sup>*6</sup>	
	Clock function	Provided with a built-in clock. (Can also refer to and display a PLC clock.) *Buy a commercially available battery.							
	Contrast adjustment	Contrast can be adjusted by using the touch panel.				Not adjustable			
	Buzzer	Installed							
	Automatic communication settings	The communication speed (baud rate) is automatically changed if there is no response from the target equipment.							
	Through function	GT connected between a PC and PLC allows the PLC to be debugged without a direct connection with the PC.							
	Screen creation	Dedicated software should be used. Applicable OS: Windows® 2000/XP/Vista/7 <sup>*9</sup>							
Touch key resolution	Free layout (8 dots min.)								
Touch key operation force	0.8 N or less								
Touch key life	1 million operations or more (at 25 °C 77 °F)								
COM. port	Communication standard	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485	Conforms to RS232C	Conforms to RS422 / RS485
	External communication conditions	Baud rate: 9,600 bps, 19,200 bps, 38,400 bps, 57,600 bps and 115,200 bps Data bits: 7 or 8 bits, Parity: None, Odd, Even, Stop bits: 1 bit							
	Protocol	Our FP series supported, General-purpose serial interface supported, Other companies' PLC supported (Refer to the "PLC COMPATIBILITY TABLE" for manufacturers and models.)							
Screen data transfer interface	Connector	Connector terminal block (8 pins)							
	Communication standard	USB1.1							
	Communication conditions with PC	—							
	Protocol	Our dedicated protocol							
User's memory	Memory	2 Mbyte			2 Mbyte		12 Mbyte (Ver.1.10 or later)		
	Capacity	2 Mbyte			2 Mbyte		12 Mbyte (Ver.1.10 or later)		
Memory backup	Memory	SRAM							
	Backup battery	Lithium battery (replaceable) AFPX-BATT *Does not come with product.							

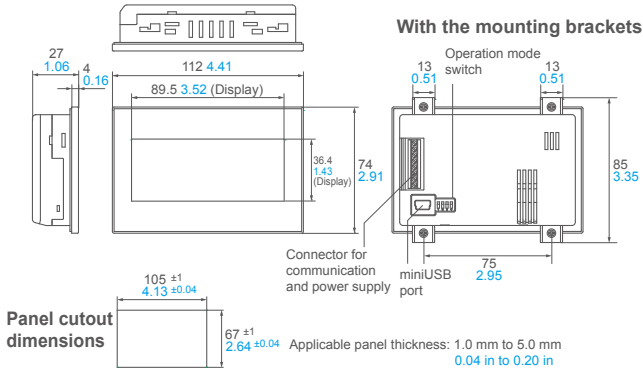
## Conformance to the UL / cUL standards

UL / cUL file No.	E96300
UL standard No.	UL508

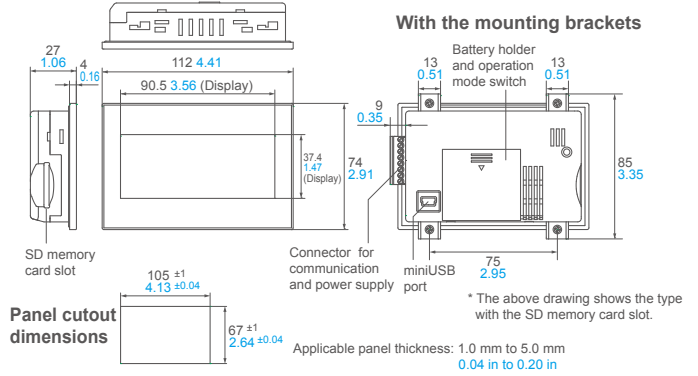
- <sup>\*1</sup> This protective structure condition applies to the front surface of the installed panel. This condition does not guarantee usage in all environments provided by users. When reattaching the panel, replace the waterproof packing.
- <sup>\*2</sup> The number of screens that can be registered varies according to the registered contents.
- <sup>\*3</sup> The data logging and SD recipe functions are available with only models equipped with an SD / SDHC memory card slot.
- <sup>\*4</sup> Simultaneous USB and Ethernet communications are not possible.

- <sup>\*5</sup> When the unit is being installed in a horizontal orientation, the usable range is 0 to +40 °C 32 to +104 °F.
- <sup>\*6</sup> WAV format (PCM, 8 KHz sampling rate, 16 bits, monoaural), Maximum sound data capacity: 512 KB (30 sec, approx.), Maximum registrable number of sound data items: 128
- <sup>\*7</sup> The unit carries out serial communication data processing at 115.2 kbits/s.
- <sup>\*8</sup> Communications with external equipment (PLC) are not available.
- <sup>\*9</sup> Not compatible with any 64-bit version of Windows®.

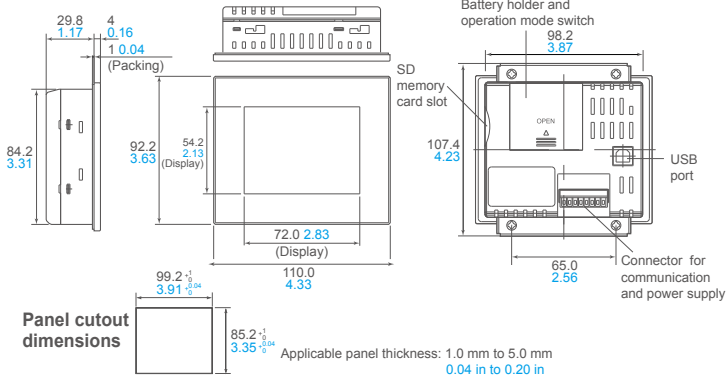
## GT02L



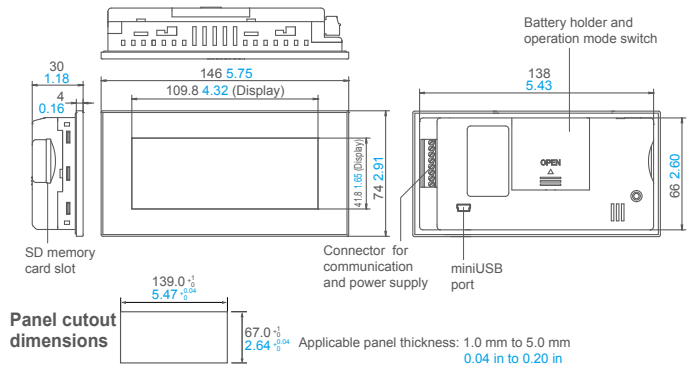
## GT02



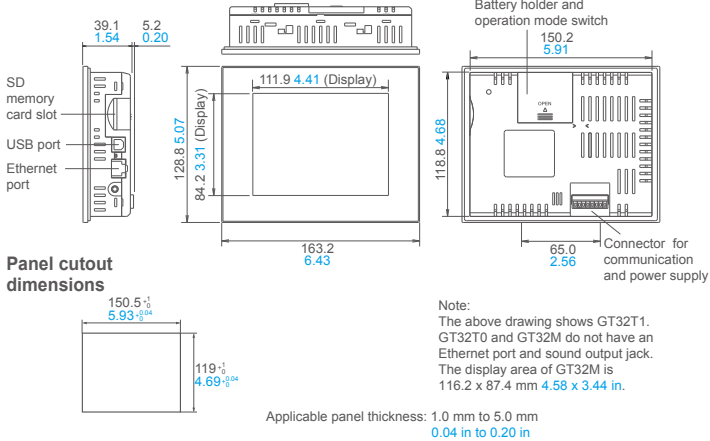
## GT05



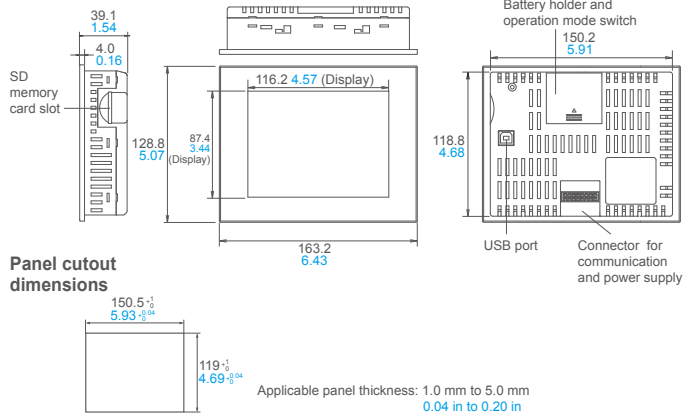
## GT12



## GT32



## GT32-E



Please contact .....

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