Panasonic
ideas for life

Programmable Display

GT SERIES

CE
Conforming to EMC Directive

c UL us
Listing

Enhanced Environmental Resistance

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

3 Year Warranty

Introducing the GT32-E Series
with Excellent Environmental Resistance

Color LCD type GT32T-E

Monochrome LCD type GT32M-E

−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.

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.

GT series

		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	**GT32M-E** P.8	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	○	○
	GT32T-E P.8	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	**GT02L** P.10	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	**GT02** P.11 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
	GT12 P.12 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
	GT05 P.13 GT05M GT05G	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	○	○
	GT05S GT05S	GT05S									
		24 V DC	3.5 inch	STN color LCD*2	4,096 colors	320(W) × 240(H) dots	White LED	768 characters	12 Mbyte	○	○
	GT32M P.14	24 V DC	5.7 inch	STN monochrome LCD	2 colors (blue / white)	320(W) × 240(H) dots	CFL	768 characters	2 Mbyte	○	○
	GT32T P.15 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.

Image Processing Device

Touch panel

PLC

SD Solutions

Eco-POWER METER

Data Logger
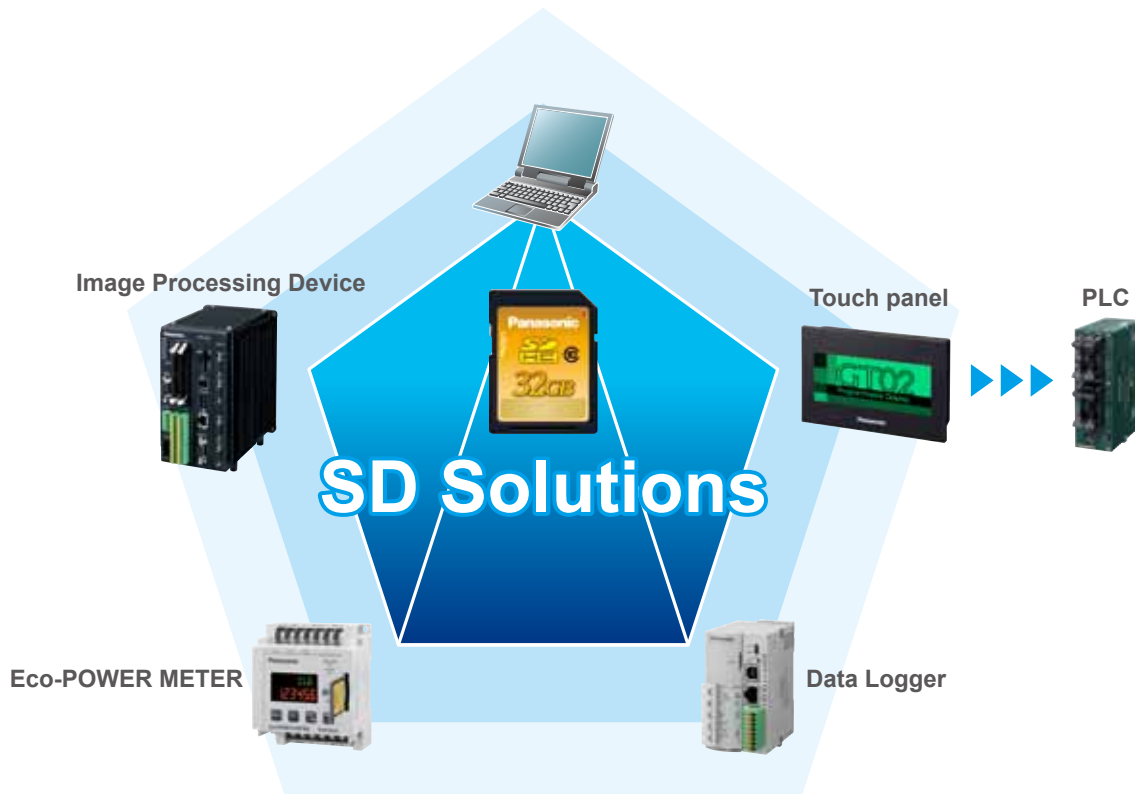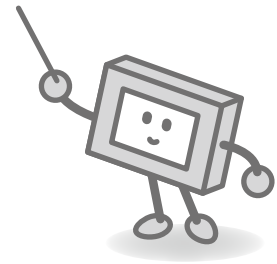
Links via SD	Expansion via SD
▶▶ SD recipe function (Data table management) ▶▶ Transfer of PLC program data	▶▶ Saving alarm history data on an SD ▶▶ Logging function ▶▶ Display of graphs of stored data

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.
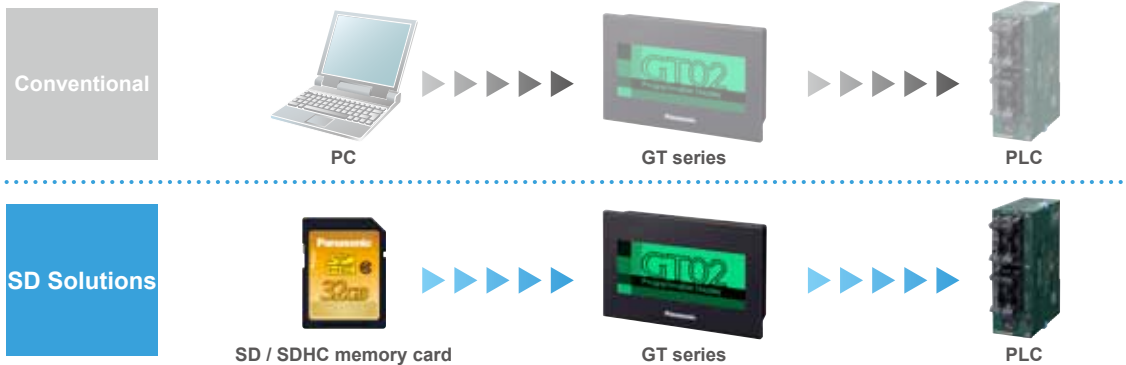
SD logging function to produce data "Visualization"

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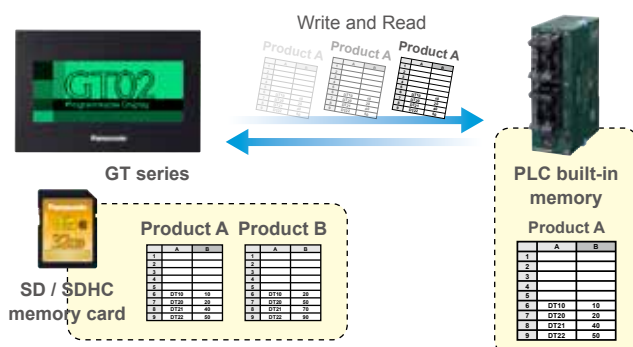
Saving alarm history data on an SD / SDHC memory card

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.
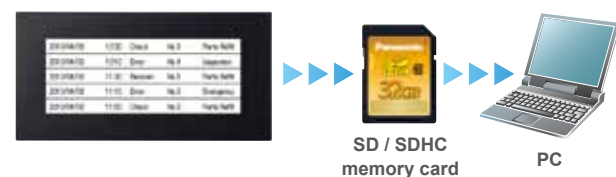
● The LCD images on this page are composites.

High Visibility and Excellent Operability
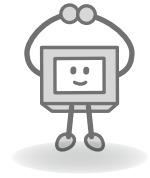
Three-color LED backlights allows for checking machine status at a glance
(GT02M, GT02G, GT05M, GT05G, GT12M and GT12G)

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
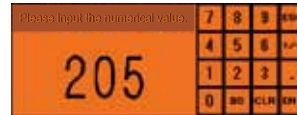
(In operation)

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"
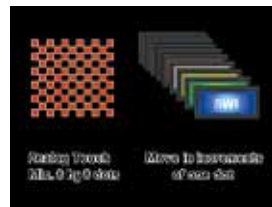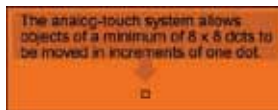
"TrueType fonts"

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.
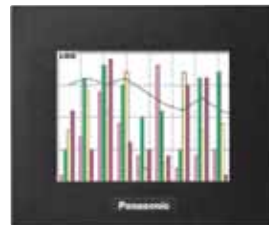
Flow display function

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

Abnormal temperature in Machine No. 3. Check the coolant level.

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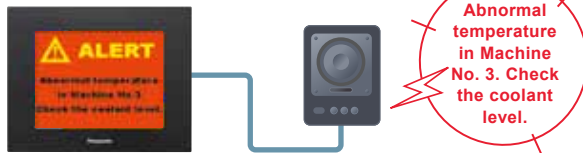
Portrait display ideal for narrow spaces (GT02, GT02L and GT12)

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.

● The LCD images on this page are composites.

Advanced Functions to Enhance Work Efficiency
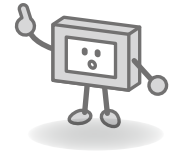
Newly equipped with an FP monitoring function

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.

(Note 1)
Up to 32 displays can be connected. (Note 2)
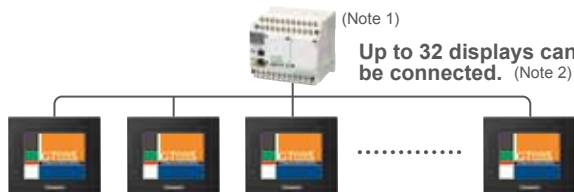
Notes: 1) Our FP series PLC
2) As the number of connected units increases, the response slows down. Check the speed in the actual line.

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.

Up to 31 units can be connected.
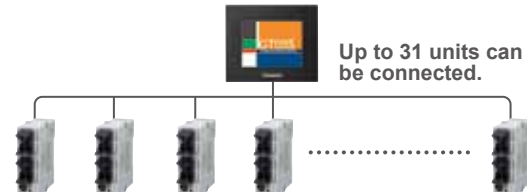
Enhanced security with password protection

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.
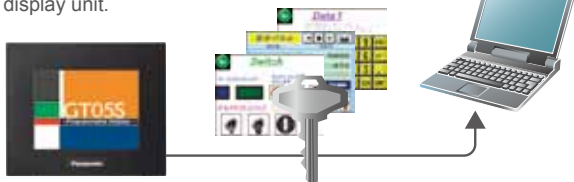
Operation security function

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.

Enter the password Login

Registered user and password change

Login screen

Password change

Operation screen

Registered user change
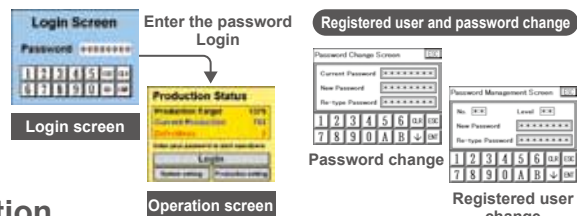
High-efficiency operation with through function

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.

Power supply   Rear of GT

Allows simultaneous debugging of GT and PLC

FPWIN GR GTWIN

Communications

Screen data transmission and PLC debugging

Ethernet

GT32T1

GT

PC

FP series PLC

FP2/FP2SH   FP-X   FPΣ   FP0R
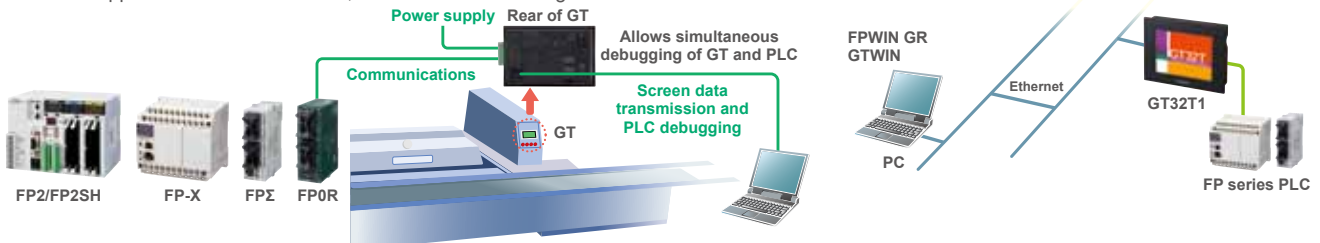
Easy-to-switch language

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.

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 CE cULus

Silver

Silver

GT32T-E

GT32M-E

128.8 mm
5.07 in

163.2 mm
6.43 in

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.

39.1 mm
1.54 in

1.5 mm *2
0.06 in

Slot for SD memory card

USB port

To PC

Connector for communication and power supply

To PLC

PLC connection cable AIGT8162

5.7 inch | TFT monochrome (black/white) •GT32M-E | TFT 4,096 colors •GT32T-E | White LED | 32 chars. x 24 lines (10-dot font) | 320 x 240 dots | USB | SD HC | IP67 | 24V DC
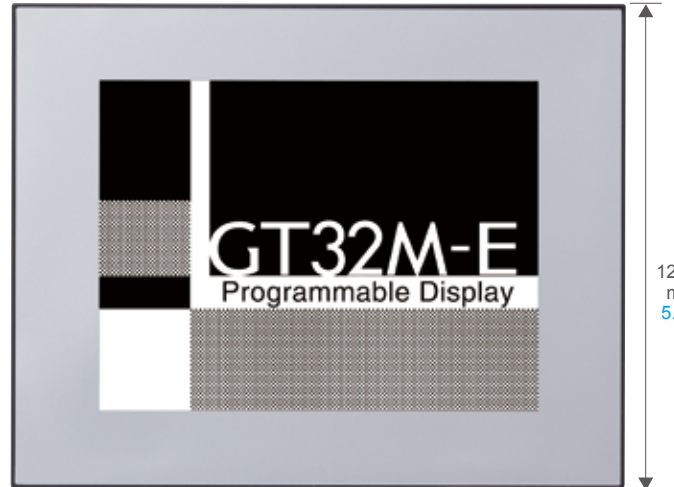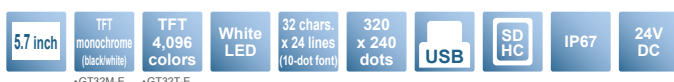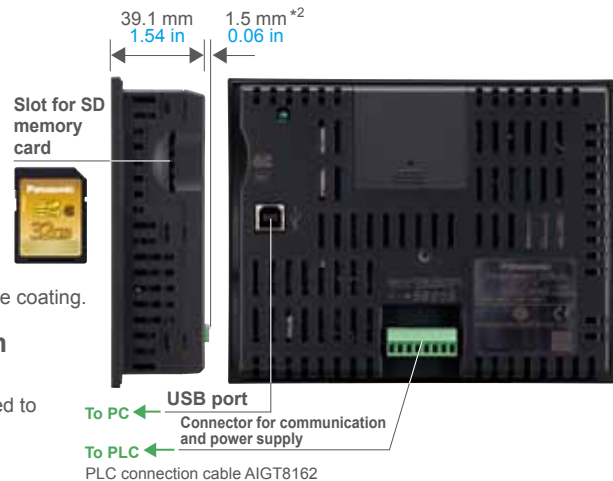
*1 Class 10 Compatible with a card of up to 32 GB.
*2 Note that the communication and power supply connector projects an additional 1.5 mm 0.06 in.
    Also take the cable diameter must be taken into account.

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)

Reflected light | Incident light | Reflected light | Incident light
Anti-glare front coating | Front layer
Touch panel | Touch panel
LCD panel | LCD panel
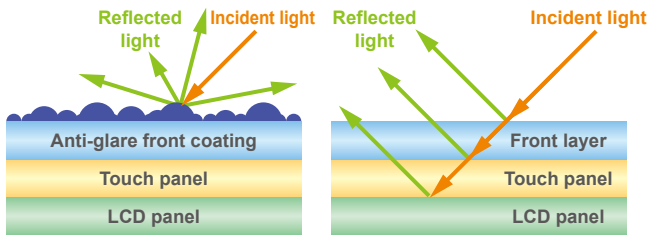
Anti-glare front coating | No anti-glare front coating

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

GT32 (Conventional model)

GT32-E (Higher environmental resistance model)

Two-stage UV blocking is achieved through the combination of UV cutting and absorbing layers.

Hard coating (UV cutting layer)
Base (UV absorbing layer)

Transmittance of UV rays (380 nm or less): 3 % or less

Transmittance (%)

UV rays | Wavelength (nm)
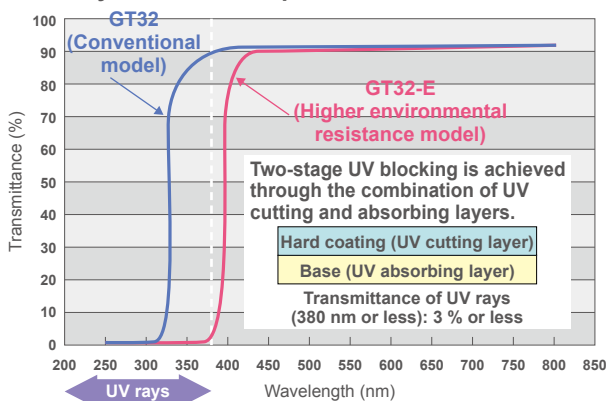
Excellent water resistance

- **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 °C to +60 °C -4 °F to +140 °F**

(-20 °C to +55 °C -4 °F to +131 °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 CE c(UL)us

Black

74 mm
2.91 in

112 mm
4.41 in

For replacing your touch panel
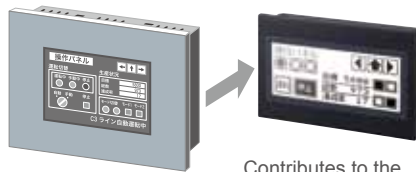
Contributes to the miniaturization of control panels.

For replacement of your membrane-type switch panel
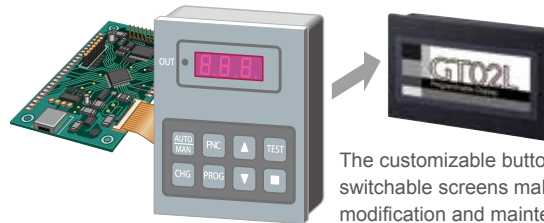
The customizable button layout and switchable screens make design modification and maintenance easier.

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.

Connector for communication and power supply

Operation mode switch

To PLC
FP series PLC connection cable
AIGT8142

miniUSB port

To PC

| 3.7 inch | STN monochrome (white/black) | White LED | 16 chars. x 6 lines (10-dot font) | 160 x 64 dots | mini USB | Portrait | IP65 | 5 V DC |

• 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 CE cULus

Pure black

GT02G

Hairline silver

GT02M

74 mm
2.91 in

112 mm
4.41 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.

| White | ⬌ | Pink | ⬌ | Red | (M type) |
| Green | ⬌ | Orange | ⬌ | Red | (G type) |
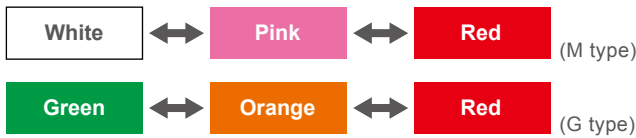
27 mm
1.06 in

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 interface as standard equipment

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

miniUSB port ➤ **To PC**

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
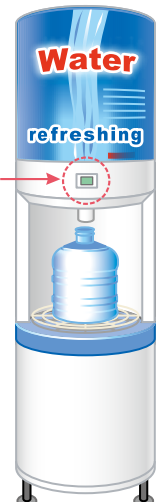
| 3.8 inch | STN monochrome (white/black) | 3-color LED (white/pink/red) (green/orange/red) | 24 chars. x 9 lines (10-dot font) | 240 x 96 dots | mini USB | SD HC | Portrait | IP67 | 5 V DC/ 24 V DC |

*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 CE c(UL)us   GT series

Pure black

GT12M

Hairline silver

74 mm
2.91 in

146 mm
5.75 in

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.

| White | ⟷ | Pink | ⟷ | Red | (M type) |

| Green | ⟷ | Orange | ⟷ | Red | (G type) |

30 mm
1.18 in

Connector for communication and power supply   Battery case

Slot for SD memory card

To PLC ◂
FP series PLC connection cable AIGT8162

miniUSB port ━▸ To PC
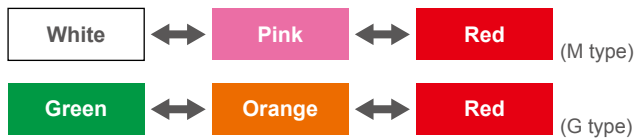
First SD / SDHC memory card slot in its class[2]

AIG12MQ1∗D and AIG12GQ1∗D are equipped with an SD / SDHC memory card slot. Easy to copy, back up, and restore screen data.
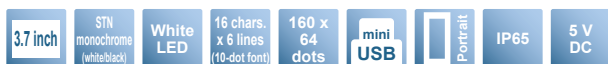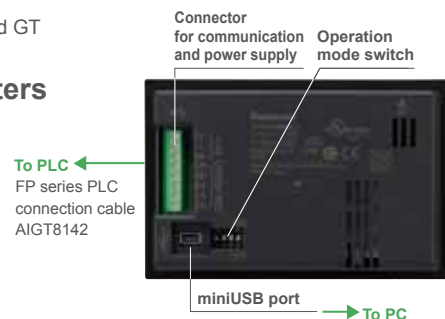
MiniUSB interface as standard equipment

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
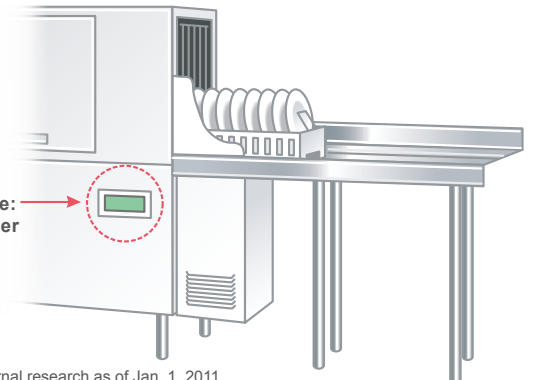
| 4.6 inch | STN monochrome (white/black) | 3-color LED (white/pink/red) (green/orange/red) | 32 chars. x 12 lines (10-dot font) | 320 x 120 dots | mini USB | SD HC | Portrait | IP67 | 24 V DC |

*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 CE c(UL)us

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
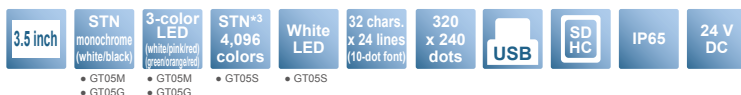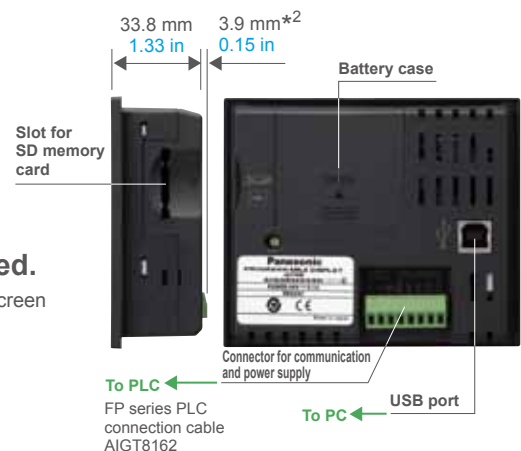
33.8 mm
1.33 in

3.9 mm*2
0.15 in

Battery case

Slot for
SD memory
card

Connector for communication
and power supply

To PLC

FP series PLC
connection cable
AIGT8162

USB port

To PC

*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.

3.5 inch	STN monochrome (white/black)	3-color LED (white/pink/red) (green/orange/red)	STN*3 4,096 colors	White LED	32 chars. x 24 lines (10-dot font)	320 x 240 dots	USB	SD HC	IP65	24 V DC
	• GT05M • GT05G	• GT05M • GT05G	• GT05S	• GT05S						

GT32M

Programmable Display

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

5.7 inch CE c(UL)us

Pure black

Hairline silver

128.8 mm
5.07 in

163.2 mm
6.43 in

*4
5.2 mm
0.21 in
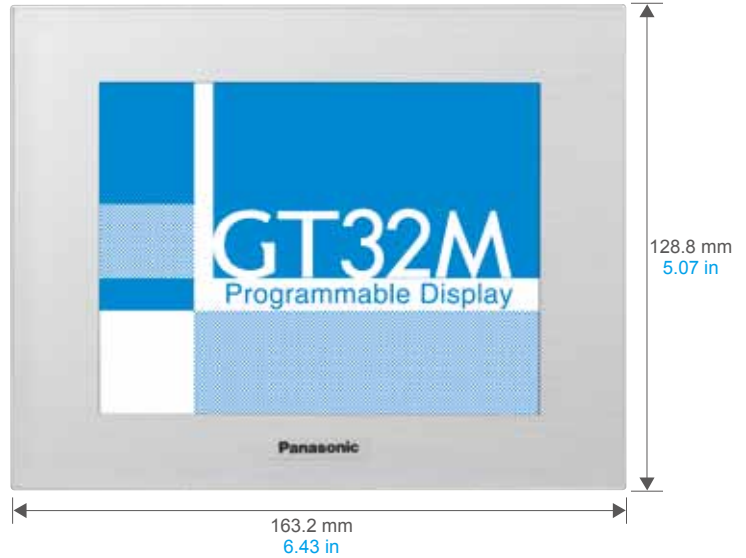
39.1 mm
1.54 in

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.

Slot for SD memory card

USB port

To PC ◄

Connector for communication and power supply

To PLC ◄

FP series PLC connection cable
AIGT8162

| 5.7 inch | STN monochrome (white/blue) | CFL backlight | 32 chars. x 24 lines (10-dot font) | 320 x 240 dots | USB | SD HC | IP65 | 24 V DC |
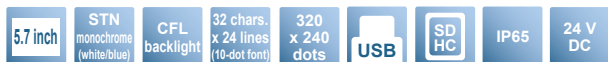
*1 The backlight life varies depending on the environmental conditions of use, including the temperature, humidity, and operating voltage.
*2 The backlight type for GT32M cannot be changed.
*3 Class 10 Compatible with a card of up to 32 GB.
*4 Note that the communication and power supply connector projects 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 C€ c(UL)us

Pure black

Hairline silver

128.8 mm
5.07 in

163.2 mm
6.43 in

39.1 mm
1.54 in

*2
5.2 mm
0.21 in

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

**Slot for
SD memory card**

To PC ◄ **USB port**

**Ethernet port
(GT32T1)**

**Sound output jack
(GT32T1)**

**Connector for communication
and power supply**

To PLC ◄

FP series PLC connection cable
AIGT8162
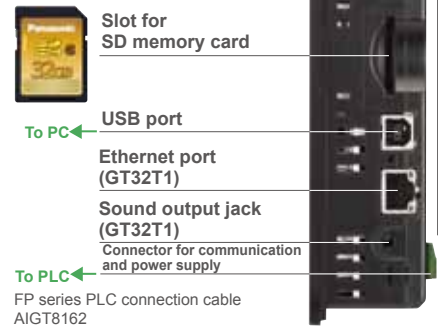
GT32T1 supports:

Sound output function	**Ethernet connection**
Audio information as well as visual and tactile information allows for more reliable control by operators.	GT32T1 supports Ethernet connection, allowing for the through function for our FP series PLC in a remote location.
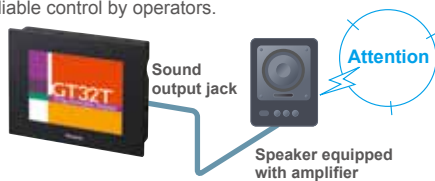
**Sound
output jack**

Attention

**Speaker equipped
with amplifier**

FPWIN GR
GTWIN

Ethernet

GT32

PC

FP series PLC
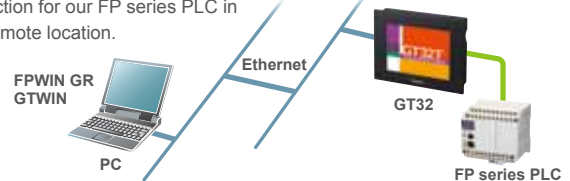
5.5 inch	TFT 4,096 colors	CFL backlight	32 chars. x 24 lines (10-dot font)	320 x 240 dots	USB	SD HC	Ether net	Sound output	IP65	24 V DC
							● GT32T1	● GT32T1		

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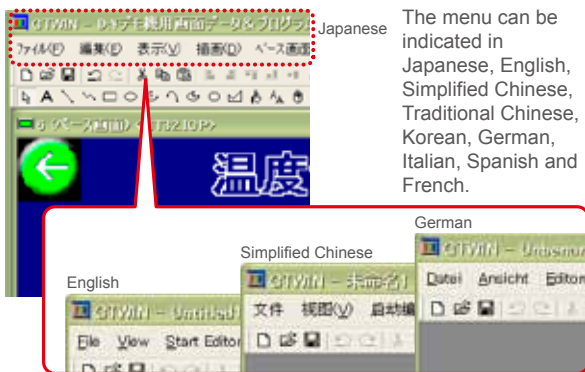
The menu can be indicated in Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish and French.

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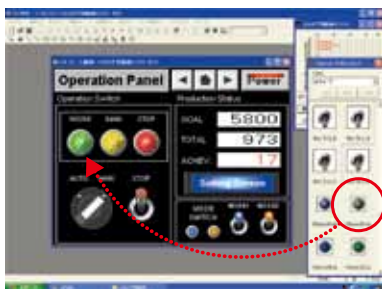
You can easily create screens by just dragging parts from the library and dropping them anywhere you want.

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.

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.

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.

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	○	◎
	Q series	Q00CPU	◎	
		Q01CPU	◎	
		Q00JCPU	○	
		Q00HCPU	◎	
		Q00UJCPU	◎	
		Q26UDHCPU	○	○
		Q25HCPU	◎	
		Q12HCPU	◎	
		Q06HCPU	◎	
		Q02HCPU	◎	
		Q02CPU	◎	
	A series	A1N	○	
		A2N	○	
		A3N	○	
		A1S	○	
		A1SJ	○	
		A2SH	○	
		A1SH	○	
		A2CCPU24	◎	
	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	◎	
	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	○	
		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	◎	
	CV series	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	◎	
		CJ2H	◎	
	CP1 series	CP1H	○	
		CP1L	○	
		CP1E	◎*4	○
Toshiba Machine*1	TC mini series		◎	◎
			Models with RS232 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	◎	◎
		40-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	Not available	AIG02MQ12D
				Hairline silver		AIG02MQ13D
			RS422 / RS485	Pure black		AIG02MQ14D
				Hairline silver		AIG02MQ15D
			RS232C	Pure black	Available	AIG02MQ22D
				Hairline silver		AIG02MQ23D
			RS422 / RS485	Pure black		AIG02MQ24D
				Hairline silver		AIG02MQ25D
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	Not available	AIG02GQ12D
				Hairline silver		AIG02GQ13D
			RS422 / RS485	Pure black		AIG02GQ14D
				Hairline silver		AIG02GQ15D
			RS232C	Pure black	Available	AIG02GQ22D
				Hairline silver		AIG02GQ23D
			RS422 / RS485	Pure black		AIG02GQ24D
				Hairline silver		AIG02GQ25D
GT05M	STN monochrome LCD (white/pink/red backlight)	24 V DC	RS232C	Pure black	Available	AIG05MQ02D
				Hairline silver		AIG05MQ03D
			RS422 / RS485	Pure black	Available	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	Available	AIG05GQ04D
				Hairline silver		AIG05GQ05D
GT05S	STN color LCD *1	24 V DC	RS232C	Pure black	Available	AIG05SQ02D
				Hairline silver		AIG05SQ03D
			RS422 / RS485	Pure black	Available	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
			RS232C	Pure black	Available	AIG12MQ12D
				Hairline silver		AIG12MQ13D
			RS422 / RS485	Pure black	Available	AIG12MQ14D
				Hairline silver		AIG12MQ15D
GT12G	STN monochrome LCD (green/orange/red backlight)	24 V DC	RS232C	Pure black	Not available	AIG12GQ02D
				Hairline silver		AIG12GQ03D
			RS422 / RS485	Pure black	Not available	AIG12GQ04D
				Hairline silver		AIG12GQ05D
			RS232C	Pure black	Available	AIG12GQ12D
				Hairline silver		AIG12GQ13D
			RS422 / RS485	Pure black	Available	AIG12GQ14D
				Hairline silver		AIG12GQ15D
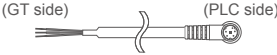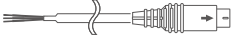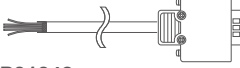
*1 Display device of GT05S will be changed to TFT color LCD from production in December 2011.

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

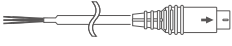| Power supply and communication port	Connection cable	PLC
5 V DC and RS232C	(GT side) (PLC side) Part No.: **AIGT8142***, PLC connection cable (2 m 6.6 ft), 5-pin mini DIN connector — 4 single wires + Shielding wire	Our FP Series
5 V DC and RS422 / RS485	Part No.: **AIGT8152***, PLC connection cable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

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

Options
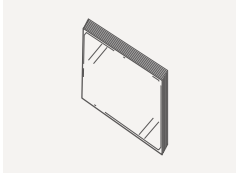
■ **Panel face protection sheets**	■ **Waterproof packing**	■ **GT02 / GT02L / GT12 mounting parts**	■ **GT05 / GT32 / GT32-E mounting parts**	■ **Spare connector**	■ **GT02 / GT05 / GT12 / GT32 /GT32-E backup battery**
10 sheets in a set (option)	Waterproof packing (for replacement), 10 pieces in a set Package includes one piece.	5 sets of mounting parts (4 parts / set) Package includes one set.	5 sets of mounting parts (2 parts / set) Package includes one set.	5 connectors for communication and power supply in a set Package includes one set.	

GT02L / GT02	Part No.: **AIG02800**
GT05	Part No.: **AIG05800**
GT12	Part No.: **AIG12800**
GT32	Part No.: **AIG32800**

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

* The waterproof packing for GT02(L) is different from the GT02L main unit accessory.

Part No.: **AIG12830**
For GT02 / GT02L / GT12

Part No.: **AIGT28321**
For GT05

Part No.: **AIG32830**
For GT32 / GT32-E

Part No.: **AIGT084**

Part No.: **AFPX-BATT**

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 −4 to +140 °F *5			
Ambient humidity		10 to 90 %RH (at 25 °C 77 °F), No condensation			
Storage temperature		−20 to +60 °C −4 to +140 °F			
Storage humidity		10 to 90 %RH (at 25 °C 77 °F), No condensation			
Vibration resistance		5 to 8.4 Hz, amplitude: 3.5 mm 0.14 in, 8.4 to 150 Hz, acceleration 9.8 m/s², 10 sweeps each in X, Y and Z directions (1 octave / min.)			
Shock resistance		147 m/s², 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) × 86.4 (H) mm 4.54 (W) × 3.40 (H) in			
	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 77 °F)			
COM. port	Communication standard	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, 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			
	Ethernet port *4	–			
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 32 to 122 °F									
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 8.4 Hz amplitude: 3.5 mm 0.14 in, 8.4 to 150 Hz acceleration 9.8 m/s², 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/s², 3 times in each of the X, Y, and Z directions						98 m/s² 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 3.46 (W) × 1.39 (H) in		88.5 (W) × 35.4 (H) mm 3.48 (W) × 1.39 (H) in				71.0 (W) × 53.3 (H) mm 2.80 (W) × 2.10 (H) in			
	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*4									
	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*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 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	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*5					
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/s², 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/s², 3 times in each of the X, Y and Z directions		98 m/s² 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)*1		IP65 (in the initial stages)*1					
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)					
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 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					
	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*3						Sound output *6	
	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*9							
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.)							
	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 *4	—						Yes (100BASE-TX, 10BASE-T) *7, *8	
User's memory	Memory	F-ROM							
	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

*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 0 to +40 °C 32 to +104 °F.

*6 WAV format (PCM, 8 KHz sampling rate, 16 bits, monaural), Maximum sound data capacity: 512 KB (30 sec, approx.), Maximum registrable number of sound data items: 128

*7 The unit caries out serial communication data processing at 115.2 kbits/s.

*8 Communications with external equipment (PLC) are not available.

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

GT02L

27 1.06
4 0.16
112 4.41
89.5 3.52 (Display)
36.4 1.43 (Display)
74 2.91
85 3.35

With the mounting brackets

13 0.51
Operation mode switch
13 0.51

Connector for communication and power supply
miniUSB port

75 2.95

Panel cutout dimensions

105 ±1 4.13 ±0.04
67 ±1 2.64 ±0.04

Applicable panel thickness: 1.0 mm to 5.0 mm
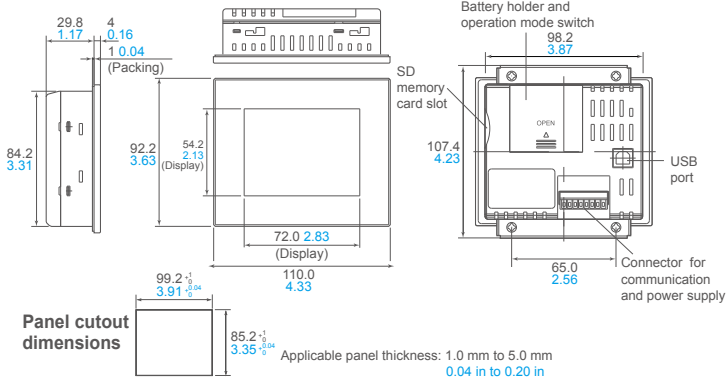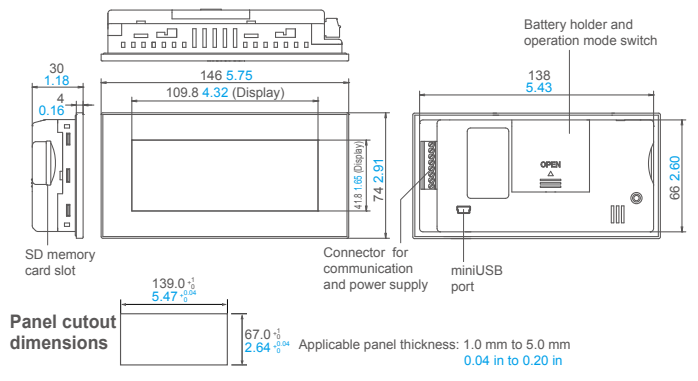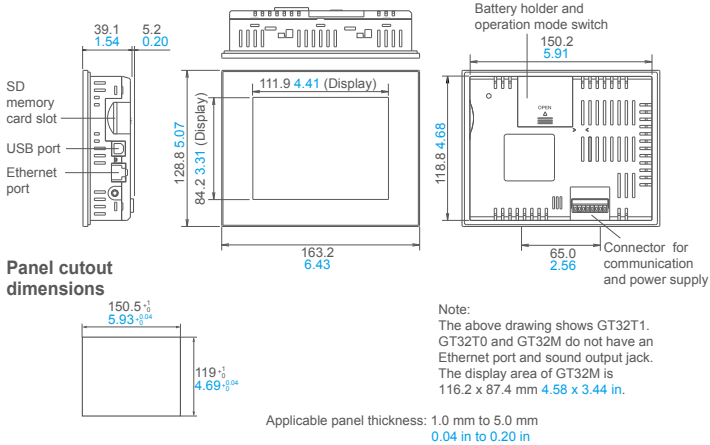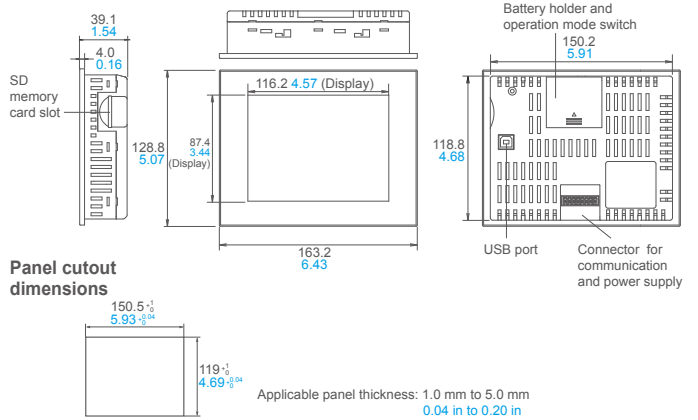0.04 in to 0.20 in

GT02

27 1.06
4 0.16
112 4.41
90.5 3.56 (Display)
37.4 1.47 (Display)
74 2.91
85 3.35

SD memory card slot

With the mounting brackets

13 0.51
Battery holder and operation mode switch
13 0.51
9 0.35

Connector for communication and power supply
miniUSB port

75 2.95

* The above drawing shows the type with the SD memory card slot.

Panel cutout dimensions

105 ±1 4.13 ±0.04
67 ±1 2.64 ±0.04

Applicable panel thickness: 1.0 mm to 5.0 mm
0.04 in to 0.20 in

GT05

29.8 1.17
4 0.16
1 0.04 (Packing)
84.2 3.31
92.2 3.63 (Display)
54.2 2.13 (Display)
72.0 2.83 (Display)
110.0 4.33

SD memory card slot

Battery holder and operation mode switch
98.2 3.87
107.4 4.23
OPEN

USB port

Connector for communication and power supply
65.0 2.56

Panel cutout dimensions

99.2 +1 3.91 0 −0.04
85.2 +1 3.35 0 −0.04

Applicable panel thickness: 1.0 mm to 5.0 mm
0.04 in to 0.20 in

GT12

30 1.18
4 0.16
146 5.75
109.8 4.32 (Display)
41.8 1.65 (Display)
74 2.91

SD memory card slot

Battery holder and operation mode switch
138 5.43
66 2.60
OPEN

Connector for communication and power supply
miniUSB port

Panel cutout dimensions

139.0 +1 5.47 0 −0.04
67.0 +1 2.64 0 −0.04

Applicable panel thickness: 1.0 mm to 5.0 mm
0.04 in to 0.20 in

GT32

39.1 1.54
5.2 0.20
111.9 4.41 (Display)
128.8 5.07 (Display)
84.2 3.31 (Display)
163.2 6.43

SD memory card slot
USB port
Ethernet port

Battery holder and operation mode switch
150.2 5.91
118.8 4.68
OPEN

Connector for communication and power supply
65.0 2.56

Panel cutout dimensions

150.5 +1 5.93 0 −0.04
119 +1 4.69 0 −0.04

Note:
The above drawing shows GT32T1.
GT32T0 and GT32M do not have an Ethernet port and sound output jack.
The display area of GT32M is 116.2 x 87.4 mm 4.58 x 3.44 in.

Applicable panel thickness: 1.0 mm to 5.0 mm
0.04 in to 0.20 in

GT32-E

39.1 1.54
4.0 0.16
116.2 4.57 (Display)
128.8 5.07
87.4 3.44 (Display)
163.2 6.43

SD memory card slot

Battery holder and operation mode switch
150.2 5.91
118.8 4.68

USB port
Connector for communication and power supply

Panel cutout dimensions

150.5 +1 5.93 0 −0.04
119 +1 4.69 0 −0.04

Applicable panel thickness: 1.0 mm to 5.0 mm
0.04 in to 0.20 in