Panasonic

CE
Conforming to EMC Directive

c (UL) us
Listing

Tough

Excellent Visibility and Environmental Resistance

High visibility display even in bright environments, it's also compact.
Introducing a new product line in the Tough Series with excellent environmental resistance

Charging possible

Connect the charge connector to the car and then press the "START" button.

START

for Electric Vehicle

3
Year Warranty

new

New Models Added to the GT [Tough] Series
GT03-E Compact Models Debut!

Charging possible 🏠

Connect the charge connector to the car and then press the "START" button.

START

3.5 inch
GT03T-E (Actual size)

5.7 inch
GT32T-E (Actual size)

• The LCD picture on this page is simulated images.

−20 to +60°C / **−4 to +140°F**	**The wide operating temperature range allows for use in various environments.** (-20 to +55 °C -4 to +131 ºF when horizontally installed, vertically installed in a portrait orientation and when using battery)
UV Reduction	**Resistant to UV Rays!** The two-layer front protection sheet deduces UV rays in two-stage.
IP67	**High waterproof performance allows for use in environments exposed to splashing water.** The front panel has a protective structure rated IP67.
Low power consumption	**Color type (GT03T-E): 3.1 W or less** **Monochrome type (GT03M-E): 1.9 W or less**

Improved visibility	**High visibility display even in bright environments!** High in brightness and contrast and anti-glare coating provides exceptional viewing characteristics. Monochrome type uses a TFT LCD that's bright and uses deep black for great visibility.
High-definition	**Same resolution [320 (W) × 240 (H) dots] as the 5.7 inch model (GT32-E)** Screen data of **GT32-E** can be used on the smaller display.
Industry's smallest	**The industry's smallest class* body among 3.5 inch screen** *Based on research conducted by our company as of June, 2013

See page 4 for details. ▶

Applications

Charging station for Electric Vehicle (EV)   **Car washing machine**   **Coin-operated parking**   **Food filling machine**

Superior visibility even in sunlight

Color type

Tough series GT32T-E | Conventional model GT32T

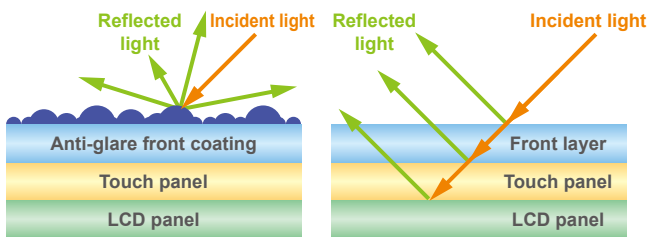**Monochrome type**

Tough series GT32M-E | Conventional model GT32M

• **High contrast TFT LCD:** Achieved higher contrast and visibility.

• **High brightness backlight:** Achieved greater brightness and visibility than the conventional model.

The monochrome type, in particular, is greater brightness than the conventional model and is way easier to view in bright environments thanks to the "deep black".

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

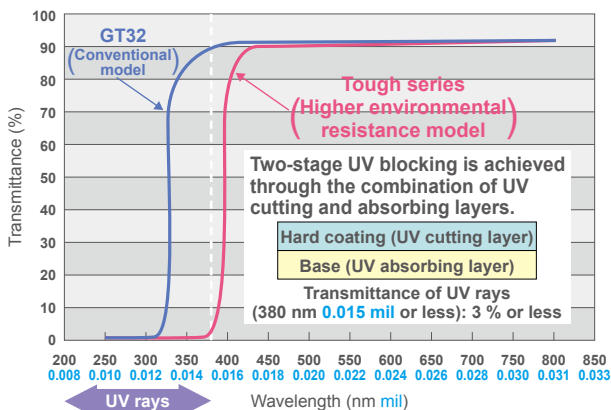**Tough series GT32T-E** | **Conventional model GT32T**

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

Tough series (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 0.015 mil or less): 3 % or less

Transmittance (%): 0 10 20 30 40 50 60 70 80 90 100

Wavelength (nm mil): 200 0.008 | 250 0.010 | 300 0.012 | 350 0.014 | 400 0.016 | 450 0.018 | 500 0.020 | 550 0.022 | 600 0.024 | 650 0.026 | 700 0.028 | 750 0.030 | 800 0.031 | 850 0.033

UV rays

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 to +60 °C -4 to +140 °F**

(-20 to +55 °C -4 to +131 °F when horizontally installed, vertically installed in a portrait orientation and when using battery)

• **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 power consumption.**

• **It is not necessary to prepare a heater for use at a low temperature.**

Reduced power consumption

• **Compact color type (GT03T-E): 3.1 W or less**

• **Compact monochrome type (GT03M-E): 1.9 W or less**

• **Color type (GT32T-E): 7.2 W or less**

• **Monochrome type (GT32M-E): 4.8 W or less**

GT03-E

Programmable Display

new **Tough**

The industry's smallest calss[1] body among 3.5 inch screen
Color display uses 3.1 W or less for low power consumption!
Use of 3.5 inch TFT monochrome LCD is an industry first[1]!

3.5 inch ℂℰ ⒸⓊℒus

Tough series

Silver

Silver

GT03T-E

86 mm
3.386 in

GT03T-E

GT03M-E

98 mm
3.858 in

GT03T-E

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

Built-in SD / SDHC memory card slot [2]
Easy to copy, back up, and restore screen data.

GT03M-E

3.5 inch, 16-gray scale TFT monochrome LCD equipped with long life LED backlight
Through use of a TFT LCD with contrast ratio of 1,000 : 1, the "deep black" on a bright display means incredible visibility even in bright environments.

Common features

Superior visibility even in sunlight
The brightness and contrast ratio 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 to +60 °C -4 to +140 °F.
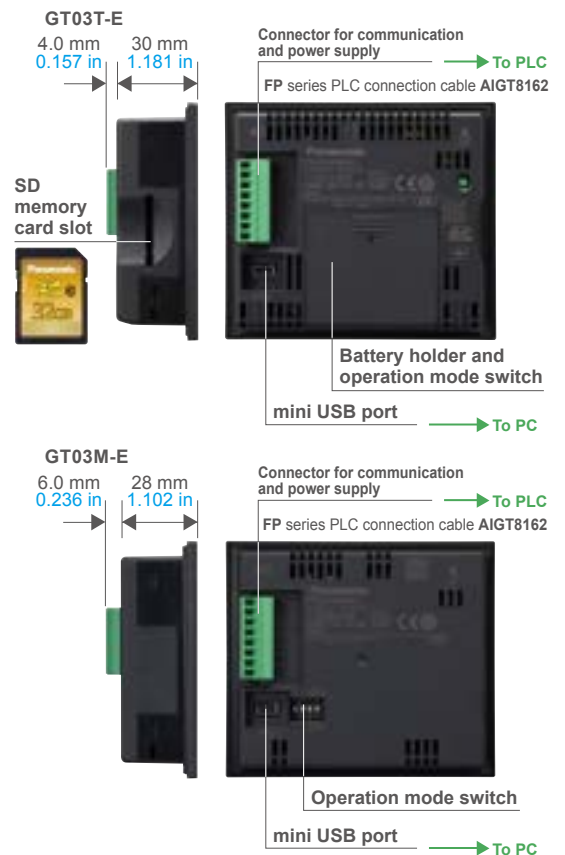
UV resistant, anti-glare front panel
A front protection layer reduces the intensity of UV rays and has an anti-glare coating.

Impressive water resistance makes usage possible in areas prone to water contact.
The front panel is IP67 rated with added protection applied to the rear of the unit for a more rugged overall construction.

Integrated USB Interface
You can connect your PC and **GT03-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

GT03T-E

4.0 mm
0.157 in
30 mm
1.181 in

SD memory card slot

Connector for communication and power supply → To PLC
FP series PLC connection cable **AIGT8162**

Battery holder and operation mode switch

mini USB port → To PC

GT03M-E

6.0 mm
0.236 in
28 mm
1.102 in

Connector for communication and power supply → To PLC
FP series PLC connection cable **AIGT8162**

Operation mode switch

mini USB port → To PC

| 3.5 inch | TFT monochrome (black/white) •GT03M-E | TFT 4,096 colors •GT03T-E | White LED | 32 chars. × 24 lines (10-dot font) | 320 × 240 dots | mini USB | SD HC | Portrait | IP67 | 24V DC |

•GT03T-E

*1: Based on research conducted by our company as of June, 2013
*2: Class 10 compatible with a card of up to 32 GB.

GT32-E

Tough

Programmable Display

Outdoor Use Made Possible by Significantly Improved Environmental Resistance and Visibility

5.7 inch CE c(UL)us

Tough series

Silver

GT32T-E

Silver

128.8 mm
5.071 in

GT32M-E

163.2 mm
6.425 in

GT32T-E

5.7 inch, 4,096 colors TFT color LCD equipped with long life LED backlight
Great visibility even in bright environments is possible thanks to use of a TFT LCD with contrast ratio of 500 : 1.

GT32M-E

5.7 inch, 16-gray scale TFT monochrome LCD equipped with long life LED backlight
Through use of a TFT LCD with contrast ratio of 400 : 1, the "deep black" on a bright display means incredible visibility even in bright environments.

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 to +60 °C -4 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 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
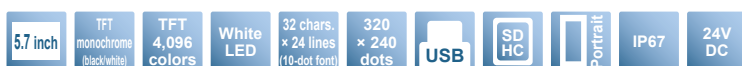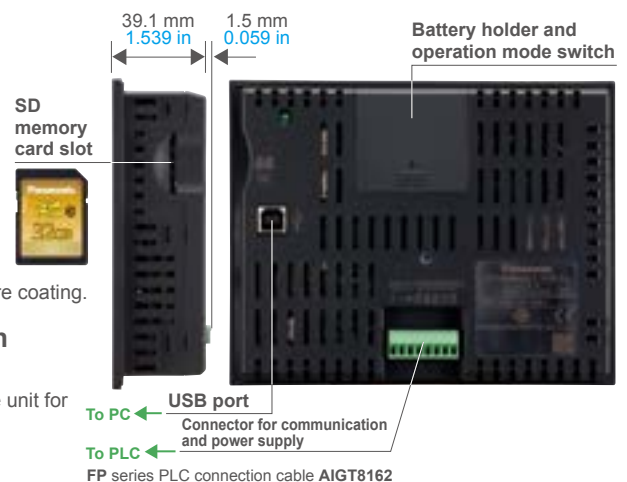Easy to copy, back up, and restore screen data.

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
1.539 in

1.5 mm
0.059 in

Battery holder and operation mode switch

SD memory card slot

USB port

To PC ◀
To PLC ◀

Connector for communication and power supply

FP series PLC connection cable **AIGT8162**

5.7 inch | TFT monochrome (black/white) ·GT32M-E | TFT 4,096 colors ·GT32T-E | White LED | 32 chars. × 24 lines (10-dot font) | 320 × 240 dots | USB | SD HC | Portrait | IP67 | 24V DC

*1: Class 10 compatible with a card of up to 32 GB.

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

PLC (FP7)

SD Solutions

Eco-POWER METER

Touch panel   **PLC**

Data Logger
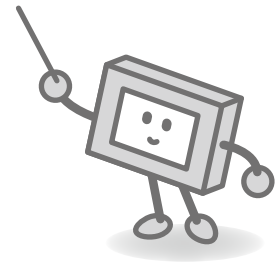
Links via SD

▶▶ 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

*Our **FP** series, excluding **FP7**.

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 Solutions

SD / SDHC memory card ▶▶▶▶▶ GT series ▶▶▶▶▶ PLC
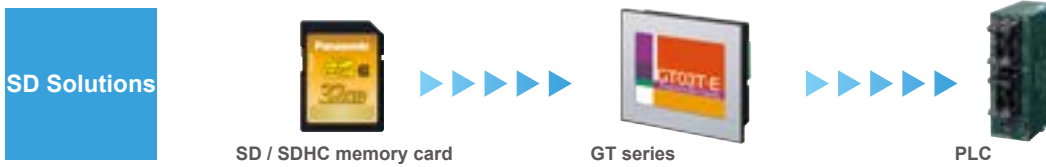
SD card data transfer function

new

Log and other data saved on a SD memory card inserted into the **GT**'s onboard SD memory card slot can now be sent to a PC using a USB connection.

SD / SDHC memory card ▶▶▶▶▶ GT series ▶▶▶▶▶ PC

Installation on the PC of **GT**_SD_Reader software is required. This software is installed simultaneously with **Terminal GTWIN** (Ver. 2.E1 and higher).
The **GT** unit firmware must be a version that supports this function. If you are using a version that does not support this function, please upgrade by downloading it from our website.

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.

Data collection and graph creation

CT
CT
CT

Real Time Monitoring

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.

Write and Read

Product A
Product A
Product A

GT series

PLC built-in memory

Product A

SD / SDHC memory card

Product A Product B
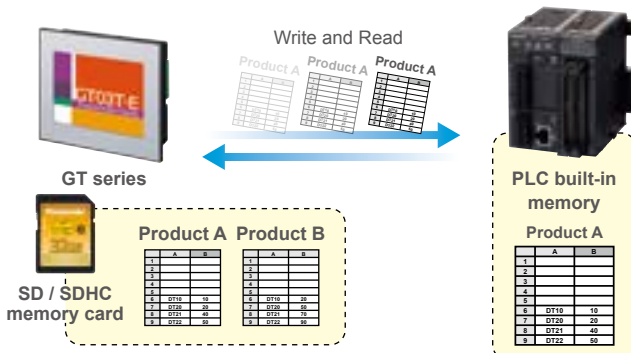
Saving alarm history data on an SD / SDHC memory card

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.

SD / SDHC memory card

PC
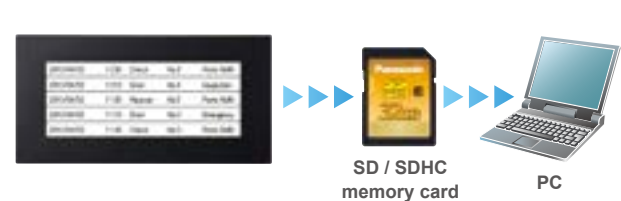
● The LCD images on this page are composites.

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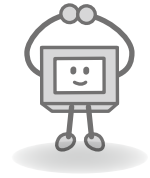
Three-color LED backlights allows for checking machine status at a glance
(GT02M / GT02G, GT05M / GT05G, GT12M / GT12G)

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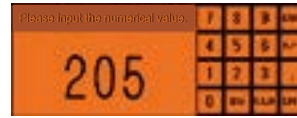Example: green under normal conditions, orange during operation, and red in emergency situations.

* Excluding **GT03M-E, GT32M-E, GT32M** and **GT02L**
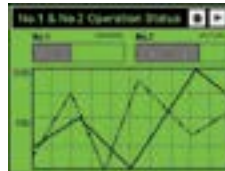
GT05G
(Normal)

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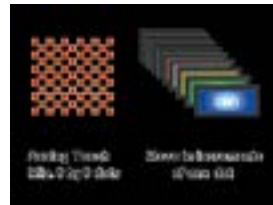
"TrueType fonts"
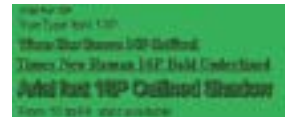
The adoption of the Windows® font has made it possible to choose a font focusing on the screen image and visual quality.

Graph function

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

Flow display function

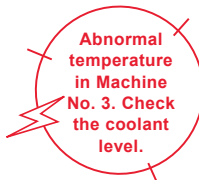A flowing message of up to 64 characters (two-byte) can be displayed at the bottom of the screen. (128 messages)

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, GT03T-E and GT32T-E)**

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

Portrait display ideal for narrow spaces

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.
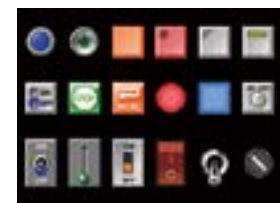
● The LCD images on this page are composites.

Advanced Functions to Enhance Work Efficiency
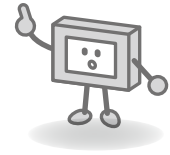
FP monitoring function (FP2SH, FP0R, FP-Σ, FP-X, FP-X0, FP-e, FP0 and FP2)

*Excluding FP7

Five convenient features of GT series for improved compatibility with our FP series of PLCs

1 **Device monitor (Display and change values of FP series devices. Three different modes available)**
(1) Easy monitor mode: Use this mode when you want to monitor something. Display is continuous when one device is specified and the device can be changed.
(2) Entry monitor mode: Use this mode when you want to monitor multiple devices. You can register devices you want to display one-by-one and you can change them.
(3) Forced on / off mode: Use this mode feature to forcibly turn output on and off. You can set devices one-by-one for which you want to control output.

2 **System register monitor (Display and change of system register values.)**
You can specify the system register number, display the value, and change it.

**3** **Shared memory monitor (Display shared memory values.)**
You can specify the slot number, bank number and address, and display the value. You cannot change the value.

4 **Error monitor (Display an error occurring in the FP series PLC.)**
You can display the self-diagnostic result, error code and error flag, and you can even clear the error.

5 **Password setting (Set the password to protect FP series program reading and writing functions.)**
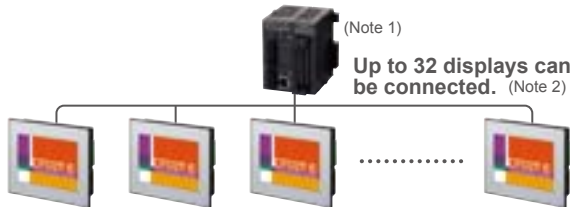Password registration and clearing is possible for the **FP** series password protection function.

Device information

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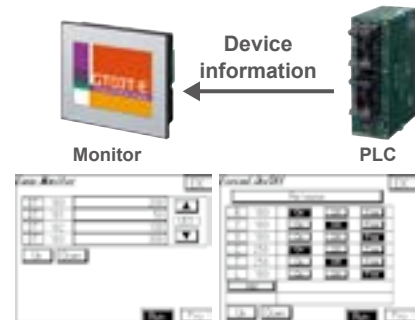
Multiple GT displays can be connected to our FP series PLC.

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)

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.

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.
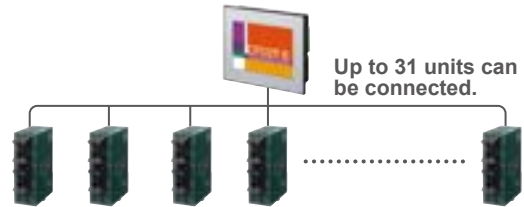
Enhanced security with password protection

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.

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.

GT series

	Power supply	Display							External interface	
		Screen size	Display type	Display color	Resolution	Backlight	Displayable characters (Note)	Memory capacity (F-ROM)	USB port	SD / SDHC memory card
Tough — Environmentally-resistant Tough series										
GT03-E P.4 — GT03M-E (new)	24 V DC	3.5 inch	TFT monochrome LCD	2 colors (black / white) (16-gray scale)	320(W) × 240(H) dots	White LED	768 characters	6 Mbyte	○ (mini)	—
GT03T-E (new)	24 V DC	3.5 inch	TFT color LCD	4,096 colors	320(W) × 240(H) dots	White LED	768 characters	12 Mbyte	○ (mini)	○
GT32-E P.5 — GT32M-E	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	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.11	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.12 — 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.13 — 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.14 — **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	TFT color LCD	4,096 colors	320(W) × 240(H) dots	White LED	768 characters	12 Mbyte	○	○
GT32M P.15	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.	○

Note: With the 10-dot font

GT02L

Programmable Display

Entry-level Model Touch Panel

3.7 inch CE c(UL)us

Black

74 mm
2.913 in

112 mm
4.409 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.
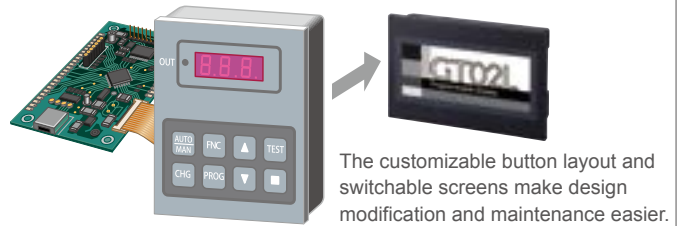
Compact body with a wide LCD that is the largest size in its class

The small body of 74 mm 2.913 in high and 112 mm 4.409 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 × 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. × 6 lines (10-dot font) | 160 × 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

Programmable Display

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

3.8 inch CE c(UL)us

Pure black

GT02G

Hairline silver

GT02M

74 mm
2.913 in

112 mm
4.409 in

Largest 3.8 inch high-contrast monochrome LCD in its class provides top-level viewability[1].

High-definition 240 × 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) |
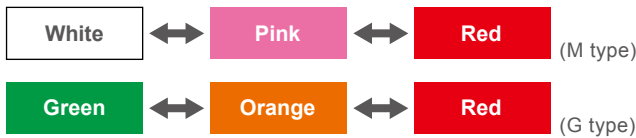
27 mm
1.063 in

Connector for communication and power supply

Battery holder

To PLC
FP series PLC connection cable **AIGT8162** and **AIGT8142**

SD memory card slot

miniUSB port ➤ To PC

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.

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 × 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.

Water
refreshing

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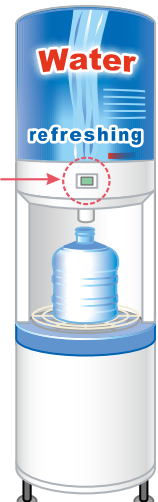
| 3.8 inch | STN monochrome (white/black) | 3-color LED (white/pink/red) (green/orange/red) | 24 chars. × 9 lines (10-dot font) | 240 × 96 dots | mini USB | SD HC | Portrait | IP67 | 5 V DC/ 24 V DC |

*1: Based on research conducted by our company as of June, 2013
*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

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

Pure black

GT12M

Hairline silver

74 mm
2.913 in

146 mm
5.748 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 × 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
1.181 in

Connector for communication and power supply
Battery holder
SD memory card slot
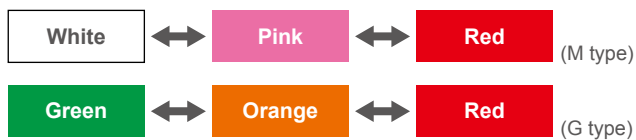
First SD / SDHC memory card slot in its class[*2]

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

To PLC
FP series PLC connection cable
AIGT8162
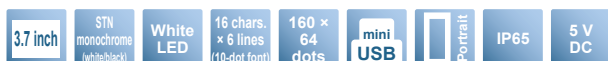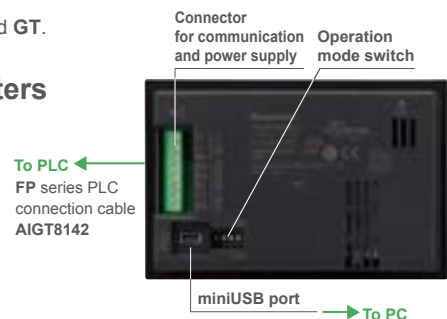
MiniUSB interface as standard equipment

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

miniUSB port → To PC
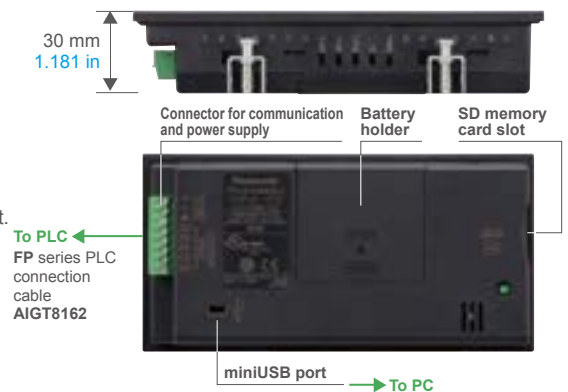
Flexible sizing and layout available for switches and characters

Switches of a minimum of 8 × 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
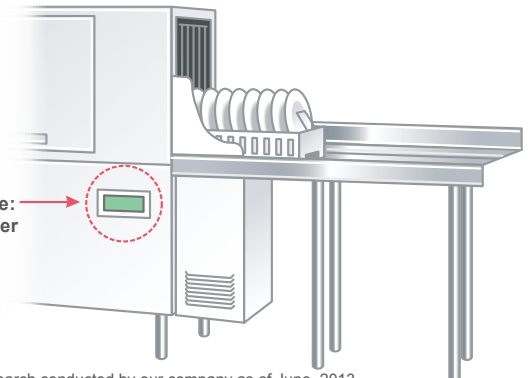
4.6 inch	STN monochrome (white/black)	3-color LED (white/pink/red) (green/orange/red)	32 chars. × 12 lines (10-dot font)	320 × 120 dots	mini USB	SD HC	Portrait	IP67	24 V DC

*1: Based on research conducted by our company as of June, 2013
*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.

13

GT05

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
3.630 in
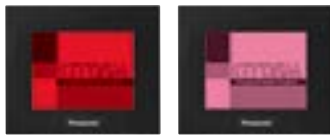
110 mm
4.331 in

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 TFT 4,096 colors QVGA LCD with a wide viewing angle

Much easier to view thanks to switch from STN to TFT LCD

Bright LED backlight adopted

33.8 mm
1.331 in

3.9 mm
0.154 in

Battery holder and operation mode switch

SD memory card slot

Connector for communication and power supply

To PLC ◄

FP series PLC connection cable **AIGT8162**

To PC ◄

USB port

*1: 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.

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

GT32M

Clear and beautiful display achieved by the blue LCD long-life backlight
5.7 inch CE c(UL)us

Programmable Display

Pure black

Hairline silver

39.1 mm 1.539 in
5.2 mm 0.205 in

128.8 mm
5.071 in

163.2 mm
6.425 in

SD memory card slot

USB port
To PC ←

Connector for communication and power supply
To PLC ←

FP series PLC connection cable AIGT8162
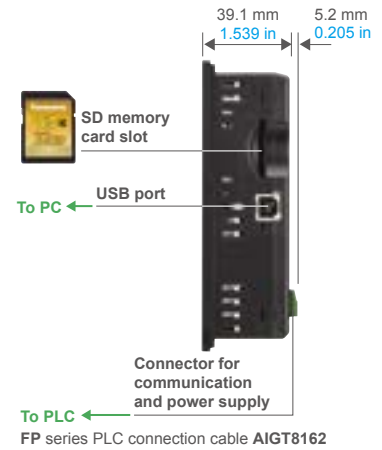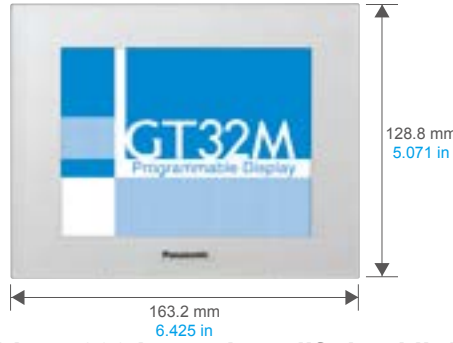
5.7 inch blue LCD equipped with 75,000 hours long life backlight
Although the backlight is a CFL type, it can last as long as 75,000 hours [1], reducing maintenance frequency.[2]

Industry's smallest size in the class, and 39.1 mm **1.539 in** thin and cool body design
Large display with space-saving outer dimensions of 163.2 × 128.8 × 39.1 mm 6.425 × 5.071 × 1.539 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.

| 5.7 inch | STN monochrome (white/blue) | CFL backlight | 32 chars. x 24 lines (10-dot font) | 320 x 240 dots |
| USB | SD HC | Portrait | 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.
• The panel face protection sheet for the **GT** series is available as an option.

GT32T

Amazingly beautiful and vivid 4,096 colors TFT LCD
5.5 inch CE c(UL)us

Programmable Display

Pure black

Hairline silver

39.1 mm 1.539 in
5.2 mm 0.205 in

128.8 mm
5.071 in

163.2 mm
6.425 in

SD memory card slot

USB port
To PC ←

Ethernet port (GT32T1)

Sound output jack (GT32T1)

Connector for communication and power supply
To PLC ←

FP series PLC connection cable AIGT8162
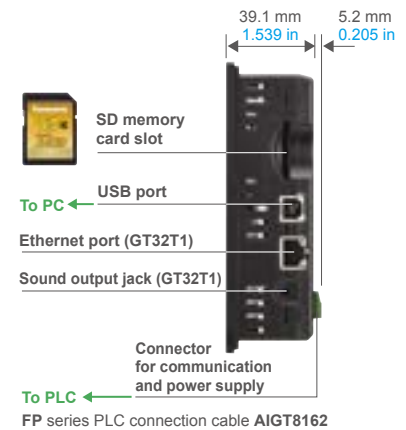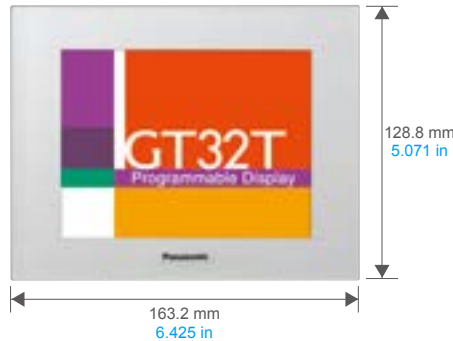
4,096 colors TFT LCD screen displays magnificent quality images.

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

| 5.5 inch | TFT 4,096 colors | CFL backlight | 32 chars. × 24 lines (10-dot font) | 320 × 240 dots | USB |
| SD HC | Ether net • GT32T1 | Sound output • GT32T1 | Portrait | IP65 | 24 V DC |

*1: 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.

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
PC
Ethernet
GT32
FP series PLC

GTWIN Ver.2

Screen Creation Tool for the GT series

User-friendly interface
makes screen creation easier.

Compatible with Windows®7
(Also supports 64-bit version.)

Compatible with the nine languages for the menu
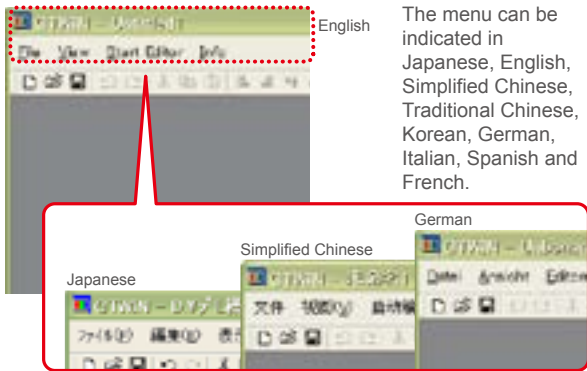
English

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

German

Simplified Chinese

Japanese

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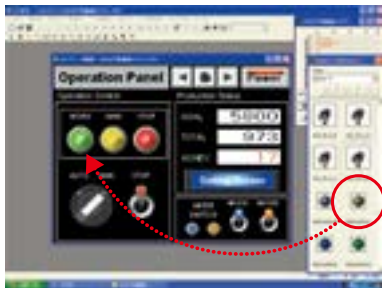
You can easily create screens by just dragging parts from the library and dropping them anywhere you want.

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, GT03T-E 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

Now supports installation in a portrait orientation of all GT series models.

WIN 2000	WIN XP	WIN Vista	WIN 7	Required disk space 400 MB min.

* The 64-bit version is not supported except for Windows® 7.
• GTWIN Ver. 2.8 or later is not compatible with Windows® 95, 98, Me or NT.

Models listed are the models that have been evaluated as of June, 2013.

Company name	Series	Model	RS232C type	RS422 / RS485 type[2]
Our company	FP series	FP7	◎	○
		FP-X	◎	○
		FP-X0	◎	○
		FPΣ	◎	○
		FP-e	◎	○
		FP0	◎	○
		FP0R	◎	○
		FP2	◎	○
		FP2SH	◎	○
Mitsubishi Electric[1]	FX series	FX0N	○	◎
		FX1S	○	◎
		FX1N	○	◎
		FX1NC	○	◎
		FX2N	○	◎
		FX2NC	○	◎
		FX3UC	○	◎
		FX3U	○	◎
		FX3G	○	◎
		FX3GC		◎
	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	○	○
		L02SCPU	◎	○
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)	○	
		C200HG-CPU33(-Z)	○	
		C200HG-CPU53(-Z)	○	
		C200HX-CPU34(-Z)	○	
		C200HX-CPU54(-Z)	○	
		C200HE-CPU42(-Z)	◎	
		C200HG-CPU43(-Z)	◎	
		C200HG-CPU63(-Z)	◎	
		C200HX-CPU44(-Z)	◎	
		C200HX-CPU64(-Z)	◎	
		C200HX-CPU65-Z	◎	
		C200HX-CPU85-Z	◎	
	CV series	CV500	◎	
		CV1000	◎	
		CVM1	◎	

Company name	Series	Model	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 Nano series	◎	
	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 / 20-point	◎	
		23 / 28-point	◎	◎
		40 / 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 our 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 for details, including the latest version of Terminal GTWIN, usable devices and addresses.
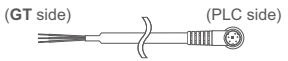
Main Unit and Tool Software
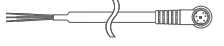
Product name	Description						Part No.
	LCD	Screen size	Power supply	Communication port	Color of front panel	SD memory card slot	
Tough GT03M-E	TFT monochrome LCD	3.5 inch	24 V DC	RS232C	Silver	Not available	**AIG03MQ03DE**
				RS422 / RS485			**AIG03MQ05DE**
Tough GT03T-E	TFT color LCD			RS232C	Silver	Available	**AIG03TQ13DE**
				RS422 / RS485			**AIG03TQ15DE**
Tough GT32M-E	TFT monochrome LCD	5.7 inch		RS232C	Silver	Available	**AIG32MQ03DE**
				RS422 / RS485			**AIG32MQ05DE**
Tough GT32T-E	TFT color LCD			RS232C	Silver	Available	**AIG32TQ03DE**
				RS422 / RS485			**AIG32TQ05DE**
GT02L	STN monochrome LCD (white backlight)	3.7 inch	5 V DC	RS232C	Pure black	Not available	**AIG02LQ02D**
				RS422 / RS485	Hairline silver		**AIG02LQ04D**
GT02M	STN monochrome LCD (white / pink / red backlight)	3.8 inch	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**
				RS232C	Pure black	Available	**AIG02MQ22D**
					Hairline silver		**AIG02MQ23D**
				RS422 / RS485	Pure black		**AIG02MQ24D**
					Hairline silver		**AIG02MQ25D**
GT02G	STN monochrome LCD (green / orange / red backlight)	3.8 inch	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**
				RS232C	Pure black	Available	**AIG02GQ22D**
					Hairline silver		**AIG02GQ23D**
				RS422 / RS485	Pure black		**AIG02GQ24D**
					Hairline silver		**AIG02GQ25D**
GT05M	STN monochrome LCD (white / pink / red backlight)	3.5 inch	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)	3.5 inch	24 V DC	RS232C	Pure black	Available	**AIG05GQ02D**
					Hairline silver		**AIG05GQ03D**
				RS422 / RS485	Pure black	Available	**AIG05GQ04D**
					Hairline silver		**AIG05GQ05D**
GT05S	TFT color LCD	3.5 inch	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)	4.6 inch	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**

Main Unit and Tool Software

Product name	Description						Part No.
	LCD	Screen size	Power supply	Communication port	Color of front panel	SD memory card slot	
GT12G	STN monochrome LCD (white / pink / red backlight)	4.6 inch	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**
GT32M	STN monochrome LCD	5.7 inch	24 V DC	RS232C	Pure black	Available	**AIG32MQ02D**
					Hairline silver		**AIG32MQ03D**
				RS422 / RS485	Pure black	Available	**AIG32MQ04D**
					Hairline silver		**AIG32MQ05D**
GT32T0	TFT color LCD	5.5 inch	24 V DC	RS232C	Pure black	Available	**AIG32TQ02D**
					Hairline silver		**AIG32TQ03D**
				RS422 / RS485	Pure black	Available	**AIG32TQ04D**
					Hairline silver		**AIG32TQ05D**
GT32T1	TFT color LCD	5.5 inch	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 [1]	Japanese version	**Terminal GTWIN** CD-ROM					**AIGT8000V2R**
	English version	**Terminal GTWIN** CD-ROM					**AIGT8001V2R**

*1: 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 6.562 ft), 5-pin mini DIN connector — 4 single wires + shielding wire	**Our FP series***[1]
5 V DC and RS422 / RS485	Part No.: **AIGT8152***, PLC connection cable (2 m 6.562 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 6.562 ft), 5-pin mini DIN connector — 3 single wires + shielding wire **AIGT8165** (5 m 16.404 ft) and **AIGT8160** (10 m 32.808 ft) are also available.	**Our FP series***[1]
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 6.562 ft), 9-pin D-SUB connector — 6 single wires	**FP2 / FP2SH COM port, CCU (Computer Communication Unit)**

*1: The **FP7** series PLC can be connected using commercially available single wire cables.

GT series | PART NUMBER LIST
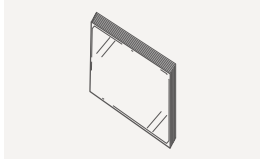
Options

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

For **GT02L / GT02**	Part No.: **AIG02800**
For **GT05**	Part No.: **AIG05800**
For **GT12**	Part No.: **AIG12800**
For **GT32**	Part No.: **AIG32800**
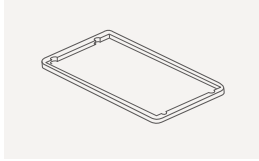
■ Waterproof packing
Waterproof packing (for replacement), 10 pieces in a set
Package includes one piece.

For **GT02L / GT02**	Part No.: **AIG02810**
For **GT03-E**	Part No.: **AIG03810E**
For **GT05**	Part No.: **AIG05810**
For **GT12**	Part No.: **AIG12810**
For **GT32**	Part No.: **AIG32810**
For **GT32-E**	Part No.: **AIG32810E**

* The waterproof packing for **GT02**(**L**) is different from the **GT02L** main unit accessory.
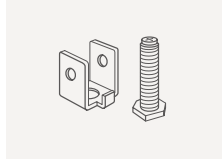
■ GT02 / GT02L / GT03-E / GT12 mounting parts
5 sets of mounting parts
(4 parts / set)
Package includes one set.

Part No.: **AIG12830**
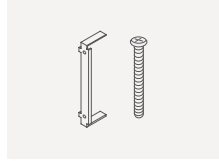
■ GT05 / GT32 / GT32-E mounting parts
5 sets of mounting parts
(2 parts / set)
Package includes one set.

Part No.: **AIGT28321**
For **GT05**

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

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

Part No.: **AIGT084**

■ GT02 / GT03-E / GT05 / GT12 / GT32 /GT32-E backup battery

Part No.: **AFPX-BATT**

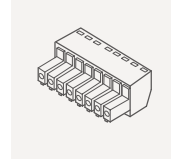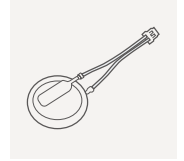| Item		GT03M-E		GT03T-E		GT32M-E		GT32T-E	
		RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485
Power supply		24 V DC							
Operating voltage range		21.6 to 26.4 V DC							
Power consumption		1.9 W or less		3.1 W or less		4.8 W or less		7.2 W or less	
Power supply unit isolation method		———				Transformer isolation			
Ambient temperature		−20 to +60 °C −4 to +140 °F (Note 1)							
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 0.138 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.) (Note 2)							
Weight		170 g approx.				470 g approx.			
Display	Display device	TFT monochrome LCD		TFT color LCD		TFT monochrome LCD		TFT color LCD	
	Resolution	320 (W) × 240 (H) dots							
	Display color	2 colors (black / white, 16-gray scale)		4,096 colors		2 colors (black / white, 16-gray scale)		4,096 colors	
	Displayable area	70.6 (W) × 52.9 (H) mm 2.780 (W) × 2.083 (H) in				115.2 (W) × 86.4 (H) mm 4.535 (W) × 3.402 (H) in			
	Backlight	White LED							
Functions	Font types	Fixed (GTWIN) : 8 × 8, 16 × 8, and 16 × 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, Turkish, Russian and Vietnames							
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares, and Bitmaps							
	Number of screens (Note 3)	230 screens approx.		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 (Note 4)							
	Clock function	Displayed by referencing PLC clock		Provided with a built-in clock. (Can also refer to and display a PLC clock.) * Buy the backup battery (AFPX-BATT).					
	Backlight brightness adjustment	Can be set on the menu screen, via the GT configuration screen of GTWIN, or via PLC.							
	Contrast adjustment	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 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 (Note 5)							
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, and Other companies' PLC supported (Refer to the "PLC COMPATIBILITY TABLE" on p.17 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 (Note 6)	———							
User's memory	Memory	F-ROM							
	Capacity	6 Mbyte		12 Mbyte					
Memory backup	Memory	———		SRAM					
	Backup battery	———		Lithium battery (replaceable) AFPX-BATT (Does not include with product.)					

Conformance to the UL / cUL standards

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

Notes: 1) Please use within a temperature range of - 20 to + 55 °C - 4 to + 131 °F when horizontally installed and vertically installed in a portrait orientation and when using battery.
2) 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.
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) The 64-bit version is not supported except for Windows® 7.
6) Simultaneous USB and Ethernet communications are not possible.

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
Power supply		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 0.138 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 0.030 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) (Note 1)		IP67 (in the initial stages) (Note 1)				IP65 (in the initial stages) (Note 1)			
Weight		150 g approx.		170 g approx.				230 g approx.			
Display	Display device	STN monochrome LCD								TFT color LCD	
	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 3.465 (W) × 1.386 (H) in		88.5 (W) × 35.4 (H) mm 3.484 (W) × 1.394 (H) in				71.0 (W) × 53.3 (H) mm 2.795 (W) × 2.098 (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 × 8, 16 × 8, and 16 × 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 × 8, 16 × 8, and 16 × 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 × 8, 16 × 8, and 16 × 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, Turkish, Russian and Vietnames									
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares and Bitmaps									
	Number of screens (Note 2)	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 (Note 3)									
	Clock function	Displayed by referencing PLC clock		Provided with a built-in clock. (Can also refer to and display a PLC clock.) *Buy the backup battery (AFPX-BATT). 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.								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 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 (Note 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	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" on p.17 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 (Note 4)	———									
User's memory	Memory	F-ROM									
	Capacity	704 Kbyte		2 Mbyte						12 Mbyte	
Memory backup	Memory	———		SRAM (Note 5)							
	Backup battery	———		Lithium battery (replaceable) AFPX-BATT (Does not include with product.) (Note 5)							

Conformance to the UL / cUL standards

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

Notes: 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) Among GT02 series, available for GT02M2 and GT02G2 only.
6) The 64-bit version is not supported except for Windows® 7.

Item		GT12		GT32M		GT32T0		GT32T1	
		RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485	RS232C	RS422 / RS485
Power supply		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 (Note 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 0.138 in, 9 to 150 Hz acceleration 9.8 m/s^2, 10 sweeps each in X, Y and Z directions (1 octave/min.)		10 to 55 Hz (1 minute cycle): Double amplitude: 0.75 mm 0.030 in, 10 minutes in each of the X, Y, and Z directions					
Shock resistance		147 m/s^2, 3 times in each of the X, Y and Z directions		98 m/s^2 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) (Note 1)		IP65 (in the initial stages) (Note 1)					
Weight		240 g approx.		500 g approx.		470 g approx.		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 4.283 (W) × 1.606 (H) in		113.2 (W) × 86.4 (H) mm 4.457 (W) × 3.402 (H) in		110.8 (W) × 83.6 (H) mm 4.362 (W) × 3.291 (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 × 8, 16 × 8, and 16 × 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 × 8, 16 × 8, and 16 × 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, Turkish, Russian and Vietnames							
	Graphics	Straight lines, Continuous straight lines, Squares, Circles, Ovals, Arcs, Elliptic arcs, Fan shapes, Elliptic fan shapes, Beveled squares and Bitmaps							
	Number of screens (Note 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 (Note 3)						Sound output (Note 6)	
	Clock function	Provided with a built-in clock. (Can also refer to and display a PLC clock.) *Buy the backup battery (AFPX-BATT).							
	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 (Note 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" on p.17 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 (Note 4)	———						Available (100BASE-TX, 10BASE-T) (Note 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 include with product.)							

Conformance to the UL / cUL standards

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

Notes: 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) Please use within a temperature range of 0 to +40 °C +32 to +104°F when horizontally installed and vertically installed in a portrait orientation.
6) WAV format (PCM, 8 kHz sampling rate, 16 bits, monaural), Maximum sound data capacity: 512 Kbyte (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) The 64-bit version is not supported except for Windows® 7.

GTseries | DIMENSIONS   Unit: mm in

GT02L

27 1.063
4 0.157
112 4.409
89.5 3.524 (Display)
36.4 1.433 (Display)
74 2.913
13 0.512
Operation mode switch
13 0.512
85 3.346

With the mounting brackets

Connector for communication and power supply
miniUSB port
75 2.953

Panel cutout dimensions
105 ±1 4.134 ±0.039
67 ±1 2.638 ±0.039

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT02

27 1.063
4 0.157
112 4.409
90.5 3.563 (Display)
37.4 1.472 (Display)
74 2.913
13 0.512
Battery holder and operation mode switch
13 0.512
9 0.354
85 3.346

With the mounting brackets

SD memory card slot
Connector for communication and power supply
miniUSB port
75 2.953

Panel cutout dimensions
105 ±1 4.134 ±0.039
67 ±1 2.638 ±0.039

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

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

GT03M-E

Connector for communication and power supply
Operation mode switch
53.7 2.114 (Display)
86 3.386
76.2 3.000
4 0.157
71.4 2.811 (Display)
98 3.858
miniUSB port
28 1.102
87.2 3.433

Panel cutout dimensions
87.5 +1/0 3.445 +0.039/0
76.5 +1/0 3.012 +0.039/0

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT03T-E

Connector for communication and power supply
Battery holder and operation mode switch
SD memory card slot
53.7 2.114 (Display)
86 3.386
76.2 3.000
4 0.157
30 1.181
71.4 2.811 (Display)
98 3.858
miniUSB port
87.2 3.433

Panel cutout dimensions
87.5 +1/0 3.445 +0.039/0
76.5 +1/0 3.012 +0.039/0

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT05

29.8 1.173
4 0.157
1 0.039 (Packing)
84.2 3.315
92.2 3.630 (Display)
54.2 2.134 (Display)
72.0 2.835 (Display)
110.0 4.331
Battery holder and operation mode switch
98.2 3.866
Slot for SD memory card
107.4 4.228
USB port
65.0 2.559
Connector for communication and power supply

Panel cutout dimensions
99.2 +1/0 3.906 +0.039/0
85.2 +1/0 3.354 +0.039/0

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT12

30 1.181
4 0.157
146 5.748
109.8 4.323 (Display)
41.8 1.646 (Display)
74 2.913
SD memory card slot
Battery holder and operation mode switch
138 5.433
66 2.598
Connector for communication and power supply
miniUSB port

Panel cutout dimensions
139.0 +1/0 5.472 +0.039/0
67.0 +1/0 2.638 +0.039/0

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT32

39.1 1.539
5.2 0.205
SD memory card slot
USB port
Ethernet port
128.8 5.071 (Display)
111.9 4.406 (Display)
84.2 3.315 (Display)
163.2 6.425
Battery holder and operation mode switch
150.2 5.913
118.8 4.677
65.0 2.559
Connector for communication and power supply

Panel cutout dimensions
150.5 +1/0 5.925 +0.039/0
119 +1/0 4.685 +0.039/0

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 × 87.4 mm 4.575 × 3.441 in.

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

GT32-E

39.1 1.539
4.0 0.157
SD memory card slot
128.8 5.071
116.2 4.575 (Display)
87.4 3.441 (Display)
163.2 6.425
Battery holder and operation mode switch
150.2 5.913
118.8 4.677
USB port
Connector for communication and power supply

Panel cutout dimensions
150.5 +1/0 5.925 +0.039/0
119 +1/0 4.685 +0.039/0

Applicable panel thickness: 1.0 mm to 5.0 mm
0.039 in to 0.197 in

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