Panasonic
ideas for life

DATA DISPLAY

Line Monitor

Operation Panel

Line Monitor

NEW!
GT21 Touch Terminal

Programmable Display
GT21C

Panasonic

The new 4.7-inch STN 256-color touch panel displays clear and beautiful images.

4.7 inch color	STN 256 colors	White LED backlight	32 chars. ×24 lines	320× 240 dots	Free switch layout (8×8 dots min)	RS232C/ RS422 (RS485)	Through function	24V DC

$C \in$

Beautiful

Beautiful images

4.7-inch STN 256 colors QVGA

The image quality is equivalent to the 5.7-inch type display, which it can replace.

Top quality images in small-sized panels

Hairline silver

Sophisticated body design

- The simple & beautiful design fits a variety of installation locations without spoiling the design of the target equipment.

- The projection from the target equipment surface is as low as 4 mm, allowing for a beautiful finish.

4mm

- The total depth is the industry's lowest at 29.9 mm (excluding the projection).
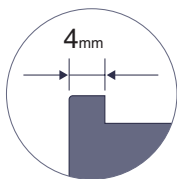
The new 3D-design buttons provide higher visibility and operability.

Simple

High operability achieved by the customizable screen layout

- The analog-touch design allows you to freely adjust the screen layout in increments of one dot.

- You can also freely choose TrueType font character sizes and arrangement.

64Point
TrueType 10 Point
SW1

Move in increments of one dot

142mm

29.9mm 7mm[*1]

112 mm
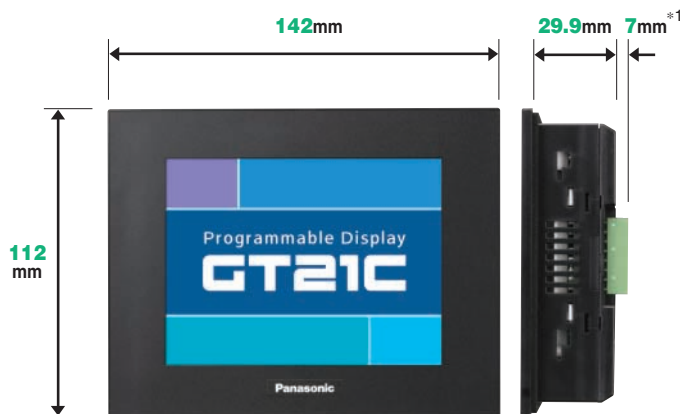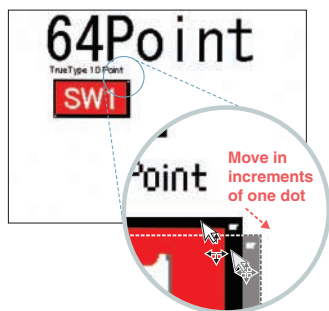
Pure black

Useful

Maintenance-free white LED backlight

- The use of the white LED backlight eliminated backlight replacement work.

Environmentally friendly lower power consumption design

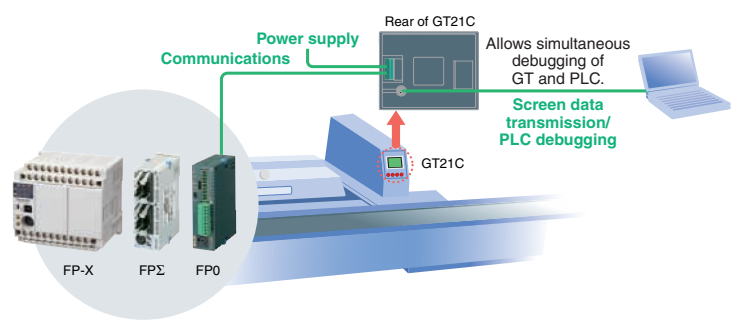- Lower power consumption of 4.8 W or less: Approx. 50% of our conventional model (GT30)

New

Programmable Display
GT21C
Panasonic

Simple connection and maintenance

● **The through function improves the convenience in combination with our FP series PLC.**

Simultaneous operation of GT data transfer and PLC debugging will be available by connecting your GT to a personal computer and our FP series PLC.

Rear of GT21C

Power supply
Communications

Allows simultaneous debugging of GT and PLC.

Screen data transmission/ PLC debugging

GT21C

FP-X   FPΣ   FP0

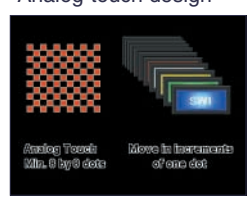# Great diversity and variety of use

● **The 4.7-inch screen provides a wide variety of display functions that improve the workability for operators.**
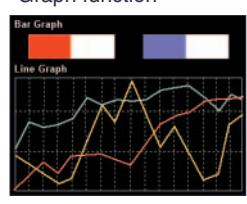
"TrueType fonts"

With the TrueType fonts, the screen can display up to 768 characters at a time (32 chars. x 24 lines) and therefore be used effectively.
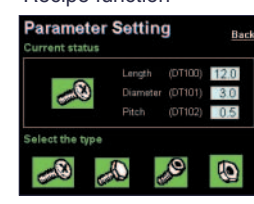
"Analog-touch design"

You can freely position switches as small as 8 x 8 dots.

"Graph function"

You can identify the production or operation status in line or bar graph form.
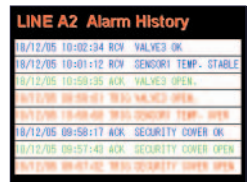
"Recipe function"

Settings by product item and other data (up to 3,600 words) can be transferred to PLC, simplifying PLC programming.
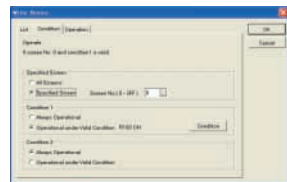
"Flow Display function"

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

"Alarm list"

Alarm activation, check, and recovery can be recorded and displayed.

"Write Device function"

This function writes the PLC values or turns bits on/off according to the PLC status or the screen No.

● **The language switching function facilitates PLC programming and screen switching.**

Conventionally, screens were created for each language. With this new language switching function, data can be entered in all available languages for each part. The same screens can be created all at once, and ladder diagram creation is also easier.

画...	部...	日本語	英語	簡体字中国語	繁體字中国語	韓国語
000	SW0	日本語	English	简体中国语	繁體中國語	한국어
000	SW0	ありがとうございました	Thank you	热烈欢迎	諸多指教	안녕하세
000	SW1	1	1	1	1	1
000	SW1	2	2	2	2	2

■ Available languages [2]

| Japanese | English | European | German, French, Italian, Spanish, etc. |

NEW

| Simplified Chinese | Traditional Chinese | Korean | Turkish |

● **There are two types of communication (RS232C/RS422).**
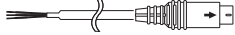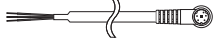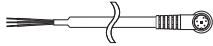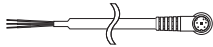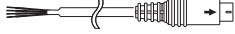
Connection with PLCs of a variety of manufacturers is possible. (Please refer to the compatible PLC list.)

The 24-V RS422 type can be connected at a maximum distance of 500m.

[1]: Note that the COM port connector projects 7 mm. Also take the cable diameter into account.
[2]: If your operating system is Windows 2000 or XP, the above languages can be displayed on one screen at a time. With other operating systems, the screen creation tool "Terminal GTWIN English Version" is required, and the operating system's language must be the one you want to display.

● The panel face protection sheet for GT21C is available as an option.
● To use the internal clock function, buy a commercially available battery (CR2032).

System Configuration and Options

Model	Rated voltage	Communication port	Order No.		PLC connection cable
GT01	5V DC	RS232C	<Ash gray> Order No.: **AIGT0030H1**	<Black> Order No.: **AIGT0030B1**	Cable (2 m) for direct connection to the TOOL port of FP-e/FP0/FPΣ/FP2/FP2SH/FP-M 5-pin mini-DIN connector — 4 single wires + Shielding wire Order No.: **AIGT8142** Note: This cable is for GT01, and power is supplied through the TOOL port.
		RS422 (RS485∗)	<Ash gray> Order No.: **AIGT0032H1**	<Black> Order No.: **AIGT0032B1**	Cable (2 m) for direct connection to the Mitsubishi Electric FX Series 8-pin mini-DIN connector — 6 single wires Order No.: **AIGT8152** Note: This cable is for GT01, and power is supplied through the TOOL port
	24V DC	RS232C	<Ash gray> Order No.: **AIGT0030H**	<Black> Order No.: **AIGT0030B**	Cable (2 m) to connect GT01 (24 V DC type) to our PLC 5-pin mini-DIN connector — 3 single wires + Shielding wire Order No.: **AIGT8162** (The 5 m and 10 m types are also available.)
		RS422 (RS485∗)	<Ash gray> Order No.: **AIGT0032H**	<Black> Order No.: **AIGT0032B**	Order No.: **AIGT8175**
GT11	24V DC	RS232C	<Ash gray> Order No.: **AIGT2030H**	<Black> Order No.: **AIGT2030B**	Cable (2 m) to connect GT11 to our PLC 5-pin mini-DIN connector — 3 single wires + Shielding wire Order No.: **AIGT8162** **AIGT8165 (5 m)** and **AIGT8160 (10 m)** are also available.
		RS422 (RS485∗)	<Ash gray> Order No.: **AIGT2032H**	<Black> Order No.: **AIGT2032B**	Cable (5 m) for connection to the Mitsubishi Electric FX Series 8-pin mini-DIN connector — 4 single wires Order No.: **AIGT8175**
GT21C	24V DC	RS232C	<Silver> Order No.: **AIGT2230H**	<Black> Order No.: **AIGT2230B**	Cable (2 m) to connect GT11 to our PLC 5-pin mini-DIN connector — 3 single wires + Shielding wire Order No.: **AIGT8162** **AIGT8165 (5 m)** and **AIGT8160 (10 m)** are also available.
		RS422 (RS485∗)	<Silver> Order No.: **AIGT2232H**	<Black> Order No.: **AIGT2232B**	Cable (5 m) for connection to the Mitsubishi Electric FX Series 8-pin mini-DIN connector — 4 single wires Order No.: **AIGT8175**
GT30M	24V DC	RS232C	<Ash gray, STN monochrome LCD> Order No.: **AIGT3100H**	<Black, STN monochrome LCD> Order No.: **AIGT3100B**	Cable (2 m) for connection to the TOOL port of FP-e/FP0/FPΣ/FP2/FP2SH/FP-M 5-pin mini-DIN connector — 3 single wires Order No.: **AIGT8192**
GT30C			<Ash gray, STN color LCD> Order No.: **AIGT3300H**	<Black, STN color LCD> Order No.: **AIGT3300B**	Cable (2 m) for connection to the COM. port of FP1/FP2/FP2SH/FP-M/FP10SH, TOOL port of FP10SH, and computer communication unit of FP2/FP3 9-pin D-SUB connector — Open wire Order No.: **AIP81842**

∗ For connection by RS485, refer to the Manual.

Specifications and Product Types

Specifications

Item	GT01 specifications				GT11 specifications		GT21C specifications		GT30 specifications	
	5V/RS232C	5V/RS422	24V/RS232C	24V/RS422	RS232C	RS422	RS232C	RS422	Monochrome LCD type	Color LCD type
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	1W max.	1.1W max.	2W max.		2.4W max.		4.8W max.		10W max.	
Ambient temperature	0 to 50°C				0 to 50°C		0 to 50°C *1		0 to 50°C *2	
Ambient humidity	20% RH to 85% RH (No dew condensation)									
Storage temperature	-20°C to 60°C									
Storage humidity	10% RH to 85% RH (No dew condensation)									
Vibration resistance	10 Hz to 55 Hz (1-minute cycle): Double amplitude: 0.75 mm, 10 minutes in each of the X, Y, and Z directions									
Shock resistance	98 m/s² min:4 times in each of the X, Y, and Z directions									
Superposed noise suppression	1,000 V [P-P] min, pulse width of 50 ns, 1 μs between power supply terminals (by a noise simulator) * AIGT0030B1/AIGT0030H1: When the ferrite device supplied with our PLC connection cable (AIGT8142) is mounted									
Environmental resistance	IP65 (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.) * When reattaching the panel, replace the waterproof packing.									
Mass	Approx. 160 g				Approx. 230 g		Approx. 330 g		Approx. 440 g	

		GT01				GT11		GT21C		GT30 Mono	GT30 Color
Display	Display device	STN monochrome LCD				STN monochrome LCD		STN color LCD		STN monochrome LCD	STN color LCD
	Resolution	128 (W) x 64 (H) dots				240 (W) x 96 (H) dots		320 (W) x 240 (H) dots		320 (W) x 240 (H) dots	
	Display color	Two colors (black/white)				Two colors (black/white)		256 colors		Two colors (blue/white)	16 colors
	Displayable area	70.38 (W) x 35.18 (H) mm				96.0 (W) x 38.4 (H) mm		98.0 (W) x 74.0 (H) mm		117 (W) x 88 (H) mm	
	Backlight	3-color LED backlight (green, red, orange)/White LED backlight * No need for replacement						White LED backlight		CFL * Average life: 50,000 hours (25°C)	
Functions	Font types	Fixed font: 8 x 8, 16 x 8, and 16 x 16 dots Characters can be displayed in the original, doubled, or quadrupled width or height. TrueType fonts, Windows TrueType fonts									
	Languages	Japanese, English, European languages, Simplified Chinese, Traditional Chinese, Korean									
	Graphics	Straight lines, continuous straight lines, squares, circles, ovals, arcs, elliptic arcs, fan shapes, elliptic fan shapes, beveled squares, bitmaps									
	Number of screens	Approx. 160 screens Screen No. that can be set: Base screens No. 00 to FF				Approx. 250 screens Screen No. that can be set: Base screens No. 00 to 3FF				Approx. 220 screens (Monochrome LCD type) Approx. 160 screens (Color LCD type) Screen No. that can be set: Base screens No. 00 to 3FF	
		The number of screens that can be registered varies according to the registered contents.									
	Part functions	Messages, lamps, switches, data, bar graphs, clocks (*), keyboards, and line graphs				Messages, lamps, switches, data, bar graphs, clocks, keyboards, line graphs, and alarm list parts					
	Other functions	Recipe, flow display, write device, and language switching				Recipe, flow display, write device, and language switching				Recipe, message scrolling, and write device	
	Clock function	Refers to and displays external clock data. (Not provided with a built-in clock function.)				Provided with a built-in clock function. (Can also refer to and display a PLC clock.) * For GT11, GT21C buy a commercially available battery					
	Contrast adjustment	Contrast can be adjusted by using the touch panel.									
	Automatic communication settings	The communication conditions of dedicated software and PLC can be automatically set by connecting a cable.									
	Debugging function	Through function (PLC can be debugged from a personal computer by connecting the computer to the TOOL port and the PLC to the COM. port.)									
	Screen creation	Dedicated software should be used. Applicable OS: Windows® 95 (OSR2 or later)/98/Me/2000/NT/XP									
	Touch key resolution	Free layout (8 dots min)								16 (W) x 12 (H)	
	Touch key operation force	0.5 N max.				0.5 N max.		0.8 N max.		0.98 N max.	
	Touch key life	1 million operations min									

			5V/RS232C	5V/RS422	24V/RS232C	24V/RS422	GT11 RS232C	GT11 RS422	GT21C RS232C	GT21C RS422	GT30
COM. port	Communication standard		Conforms to RS232C	Conforms to RS422	Conforms to RS232C	Conforms to RS422	Conforms to RS232C	Conforms to RS422	Conforms to RS232C	Conforms to RS422	Conforms to RS232C
	External communication conditions		Baud rate: 9,600/19,200/ 38,400/57,600/115,200 bits/s				Baud rate: 9,600/19,200/ 38,400/57,600/76,800/115,200 bits/s		Baud rate: 9,600/19,200/ 38,400/57,600/115,200 bits/s		Baud rate: 9,600/19,200/ 38,400/57,600/115,200 bits/s
			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 compatible PLC list for manufacturers and models.)								
	Connector		Connector terminal base (8 pins)								Connector terminal base (5 pins)
TOOL port	Communication standard		Conforms to RS232C								
	Communication conditions with personal computers		Baud rate: 9,600/19,200/115,200 bits/s Data bits: 8 bits Parity: None, Odd, Even Stop bits: 1 bit								
	Protocol		Our dedicated protocol								
	Connector		5-pin mini-DIN								

*1 When the unit is being installed in a horizontal orientation or FP programmer II is being connected to the TOOL port, the usable range is 0 to +45°C.
*2 When the unit is being installed in a horizontal orientation and FP programmer II is being connected to the TOOL port, the usable range is 0 to +40°C.

Conformance to the UL/cUL standards

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

Memory

Screen data and GTWIN configuration setting data

Item	GT01 specifications	GT11 specifications	GT21C specifications	GT30 specifications	
				Monochrome LCD type	Color LCD type
User's memory	F-ROM	F-ROM	F-ROM	F-ROM	F-ROM
Memory capacity	384 KB	1.375 MB	6.5 MB	1.5 MB	3.25 MB

Clock data and PLC device storage data (24 words max.)

Item	GT01 specifications	GT11 specifications	GT21C specifications	GT30 specifications
Memory	—	SRAM		SRAM
Memory backup	—	Lithium battery (replaceable) CR2032, commercially available * Not included. Buy it separately.		Lithium battery (replaceable) CR2032, commercially available (included)

Models and prices

Produce name	Description				Order No.
GT01: Main unit	STN monochrome LCD	5 V DC	RS232C type	Black	AIGT0030B1
				Ash gray	AIGT0030H1
			RS422/RS485 type	Black	AIGT0032B1
				Ash gray	AIGT0032H1
		24 V DC	RS232C type	Black	AIGT0030B
				Ash gray	AIGT0030H
			RS422/RS485 type	Black	AIGT0032B
				Ash gray	AIGT0032H
GT11: Main unit	STN monochrome LCD	24 V DC	RS232C type	Black	AIGT2030B
				Ash gray	AIGT2030H
			RS422/RS485 type	Black	AIGT2032B
				Ash gray	AIGT2032H
GT21C: Main unit	STN color LCD	24 V DC	RS232C type	Black	AIGT2230B
				Silver	AIGT2230H
			RS422/RS485 type	Black	AIGT2232B
				Silver	AIGT2232H
GT30: Main unit	STN monochrome LCD	24 V DC	RS232C type	Black	AIGT3100B
				Ash gray*	AIGT3100H
	STN color LCD		RS232C type	Black	AIGT3300B
				Ash gray*	AIGT3300H
Terminal GTWIN Ver. 2 Japanese Version Tool Kit	Composed of: • Screen creation tool "Terminal GTWIN Ver. 2 Japanese Version" (CD-ROM) • Screen transmission cable (AFC8503, for DOS/V computers) • GT Series Introduction Manual (Japanese Version)				AIGT8000V2
Terminal GTWIN Ver. 2 English Version	Composed of: • Screen creation tool "Terminal GTWIN Ver. 2 English Version" (CD-ROM) • GT Series Hardware Manual (English Version)				AIGT8001V2
Terminal GTWIN Upgrade Version	Upgrades the screen creation tool "Terminal GTWIN Ver. 1" to "Ver. 2".			Japanese Version	AIGT8000V2R
				English Version	AIGT8001V2R
PLC direct connection cable	Cable (5-pin mini-DIN connectors, 2 m) for direct connection between GT01 (5 V DC/RS232C type) and the TOOL port of our PLC (FP-e/FPS/FPS/FP2/FP2SH/FP-M)				AIGT8142
	Cable (8-pin mini-DIN connectors, 2 m) for direct connection between GT01 (5 V DC/RS422 type) and the Mitsubishi Electric FX Series				AIGT8152
	Cable (8-pin mini-DIN connectors, 5 m) for direct connection between GT11/GT21 (RS422 type) and the Mitsubishi Electric FX Series				AIGT8175
PLC connection cable	Cable (One end: 5-pin mini-DIN connector, The other end: Open wire, 2 m) to connect GT01 (24 V DC type)/GT11/GT21 to our PLC				AIGT8162
	Cable (One end: 5-pin mini-DIN connector, The other end: Open wire, 5 m) to connect GT01 (24 V DC type)/GT11/GT21 to our PLC				AIGT8165
	Cable (One end: 5-pin mini-DIN connector, The other end: Open wire, 10 m) to connect GT01 (24 V DC type)/GT11/GT21 to our PLC				AIGT8160
	Cable (One end: 5-pin mini-DIN connector, The other end: Open wire, 2 m) for direct connection between GT30 and the TOOL port of our PLC (FP-e/FP0/FPS/FP2/FP2SH/FP-M)				AIGT8192
	Cable (One end: 9-pin D-SUB connector, The other end: Open wire, 2 m) for connection to the COM. port of FP1/FP2/FP2SH/FP-M/FP10SH, TOOL port of FP10SH, and computer communication unit of FP2/FP3				AIP81842
Screen transmission cable	Screen data transmission cable between GTWIN and GT series displays (One cable is included in the Terminal GTWIN Ver. 2 Japanese Version Tool Kit.)				AFC8503
	Screen data transmission cable (5-pin mini-DIN straight type) between GTWIN and GT series displays				AFC8503S
Panel face protection sheets	GT01 panel face protection sheets 10 sheets in a set (option)				AIGT080
	GT11 panel face protection sheets (for replacement) 10 sheets in a set				AIGT280
	GT21C panel face protection sheets (for replacement) 10 sheets in a set				AIGT28021
	GT30 panel face protection sheets (for replacement) 10 sheets in a set * One sheet is factory-attached to the GT panel.				AIGT380
Waterproof packing	GT01 waterproof packing (for replacement) 10 pieces in a set * One piece is factory-attached to the GT panel.				AIGT081
	GT11 waterproof packing (for replacement) 10 pieces in a set * One piece is factory-attached to the GT panel.				AIGT181
	GT21C waterproof packing (for replacement) 10 pieces in a set * One piece is factory-attached to the GT panel.				AIGT28121
	GT30 waterproof packing (for replacement) 10 pieces in a set * One piece is factory-attached to the GT panel.				AIGT381
Replacement backlight	Replacement backlight for GT30 color/monochrome LCD				AIGT382
Mounting parts	5 sets of GT01/GT11 mounting parts (4 parts/set)				AIGT083
	5 sets of GT21C mounting parts (4 parts/set)				AIGT28321
	5 sets of GT30 mounting parts (2 parts/set)				AIGT383
Connectors	GT01/GT11/GT21C COM. port connectors 5 connectors in a set				AIGT084
	GT30 COM. port connectors 5 connectors in a set				AIGT184

• White LED backlight types are also available for the GT01 and GT11. When ordering, please change the 6th digit of the part number to "1". (Example: AIGT0130B1 and AIGT2130B) (This is a custom order item.)
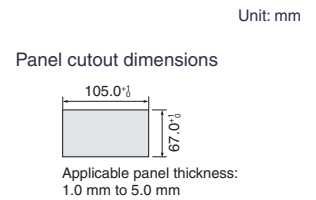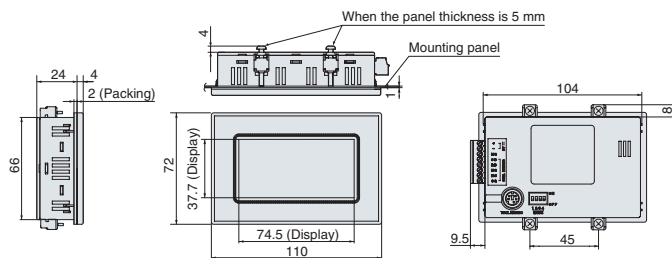
PLC Compatibility

GTWIN Ver. 2.7 (as of December 2005) ●: Compatible –: Not compatible

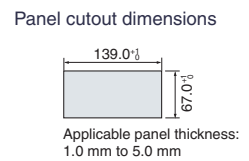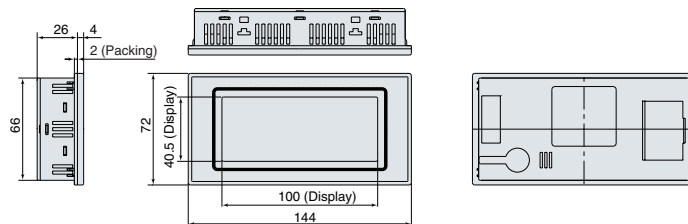| PLC model \ GT model	GT01		GT11/GT21C		GT30 (Monochrome/Color)
	RS422 type	RS232C type	RS422 type	RS232C type	
Matsushita Electric Works FP Series	●		●		●
Mitsubishi Electric MELSEC-FX0N	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX1S	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX1N	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX1NC	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX2N	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX2NC	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-FX3UC	●	●*1	●	●*1	●*1
Mitsubishi Electric MELSEC-A (Computer link)	–	●	–	●	●
Omron SYSMAC-C Series	●		●		●
ALLEN-BRADLEY DF1 Protocol	●		●		●
Siemens S7-200 Series	●		●		●
LG MASTER-K (Cnet) Series	●		●		●
Modbus (RTU Mode)	●		●		●
Toshiba Machine PROVISOR TCmini Series	●	–	●	–	–
Yokogawa Electric FA-M3 Series	●		●		●
KEYENCE KV-700, KV-1000	●	–	●	–	–
General-purpose serial interfaces (Purpose-built boards/Other controllers)	● Command response*2		●		●

*1: An RS422/RS232C conversion adapter or unit is required.
*2: Notes for using the general-purpose serial communication mode of GT01
    GT01 control signals (RS, CS) are not available. Note the following points when you use Duplex 1 or Duplex 2.
    • Commands transmitted from a microprocessor board during a GT01 data transmission cannot be accepted.
    • When there is no response from GT, retry the command transmission.
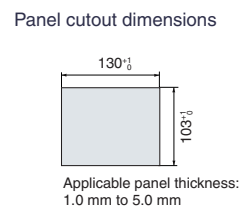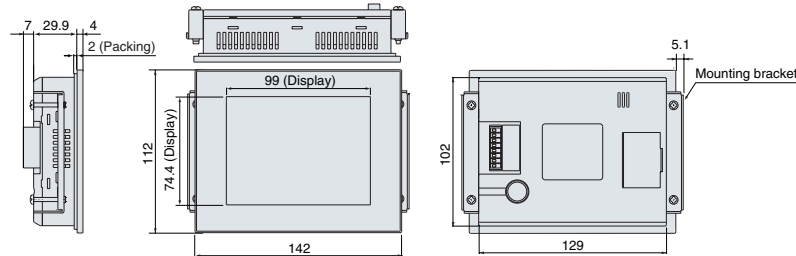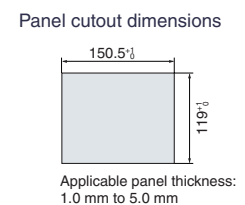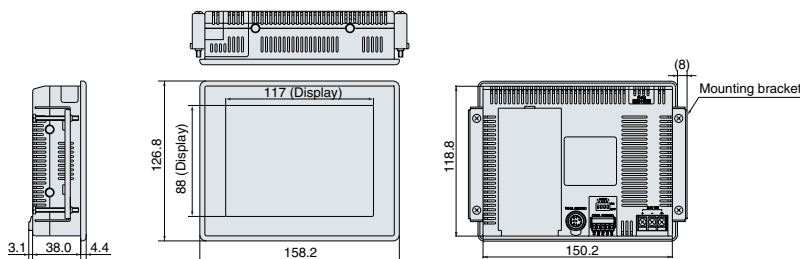
Unit: mm

GT01

When the panel thickness is 5 mm
Mounting panel

Panel cutout dimensions

Applicable panel thickness: 1.0 mm to 5.0 mm

GT11

Panel cutout dimensions

Applicable panel thickness: 1.0 mm to 5.0 mm

GT21C

Panel cutout dimensions

Applicable panel thickness: 1.0 mm to 5.0 mm

GT30

Panel cutout dimensions

Applicable panel thickness: 1.0 mm to 5.0 mm

● All LCD pictures in this catalog are simulated images.