

Panasonic Electric Works Co., Ltd.

Automation Controls Business Unit

■ Head Office: 1048, Kadoma, Kadoma-shi, Osaka 571-8686, Japan

■ Telephone: +81-6-6908-1050 ■ Facsimile: +81-6-6908-5781

panasonic-electric-works.net/ac



All Rights Reserved © 2010 COPYRIGHT Panasonic Electric Works

Printed in Japan.

Panasonic

ideas for life

GTseries

Programmable Display

GT02 GT05 GT12 GT21C GT32



Sharp Image with Remarkable Functionality



All LCD pictures in this catalog are simulated images.

Advanced functions in a small package

Panasonic
ideas for life

Programmable Display
GT02









Two Panasonic GT02 Programmable Displays are shown stacked vertically. The top display shows a sharp, high-contrast image of a zebra's head. The bottom display shows a blurred, low-contrast image of the same zebra's head, demonstrating the display's ability to show sharp images.

**Sharp Image
with Remarkable Functionality**

Only one in its class*1 compatible with SD/SDHC memory cards, which leads to the creation of new ideas

*1 Based on our investigation as of June 1, 2010

*All LCD pictures in this flyer are simulated images.

	Rated voltage	Display							External interface	
		Screen size	Display type	Display color	Resolution	Backlight	Displayable characters*	Memory capacity (F-ROM)	USB port	SD/SDHC memory card
GT02M/GT02G 	5V DC 24V DC	3.8 inch	STN monochrome LCD	2 colors (black/white) (2-Gray Scale)	240 (W) x 96 (H) dots	3-color LED (green/orange/red) 3-color LED (white/pink/red)	216 characters	2Mbyte	○ (mini)	○ Only available with GT02MQ2 and GT02GQ2
GT12M/GT12G 	24V DC	4.6 inch	STN monochrome LCD	2 colors (black/white) (8-Gray Scale)	320 (W) x 120 (H) dots	3-color LED (green/orange/red) 3-color LED (white/pink/red)	384 characters	2Mbyte	○ (mini)	○
GT05M 	24V DC	3.5 inch	STN monochrome LCD	2 colors (black/white)	320 (W) x 240 (H) dots	3-color LED (white/pink/red)	768 characters	2Mbyte	○	○
GT05M/GT05G 	24V DC	3.5 inch	STN monochrome LCD	2 colors (black/white)	320 (W) x 240 (H) dots	3-color LED (green/orange/red)	768 characters	2Mbyte	○	○
GT05S 	24V DC	3.5 inch	STN color LCD	4,096 colors	320 (W) x 240 (H) dots	White LED	768 characters	12Mbyte	○	○
GT21C 	24V DC	4.7 inch	STN color LCD	256 colors	320 (W) x 240 (H) dots	White LED	768 characters	6.5Mbyte	—	—
GT32M 	24V DC	5.7 inch	STN monochrome LCD	2 colors (blue/white)	320 (W) x 240 (H) dots	CFL	768 characters	2Mbyte	○	○
GT32T0 GT32T1 	24V DC	5.5 inch	TFT color LCD	4,096 colors	320 (W) x 240 (H) dots	CFL	768 characters	12Mbyte	○	○ GT32T1 has Ethernet and sound output ports.

* With the 10-dot font

* With the 10-dot font

GTseries

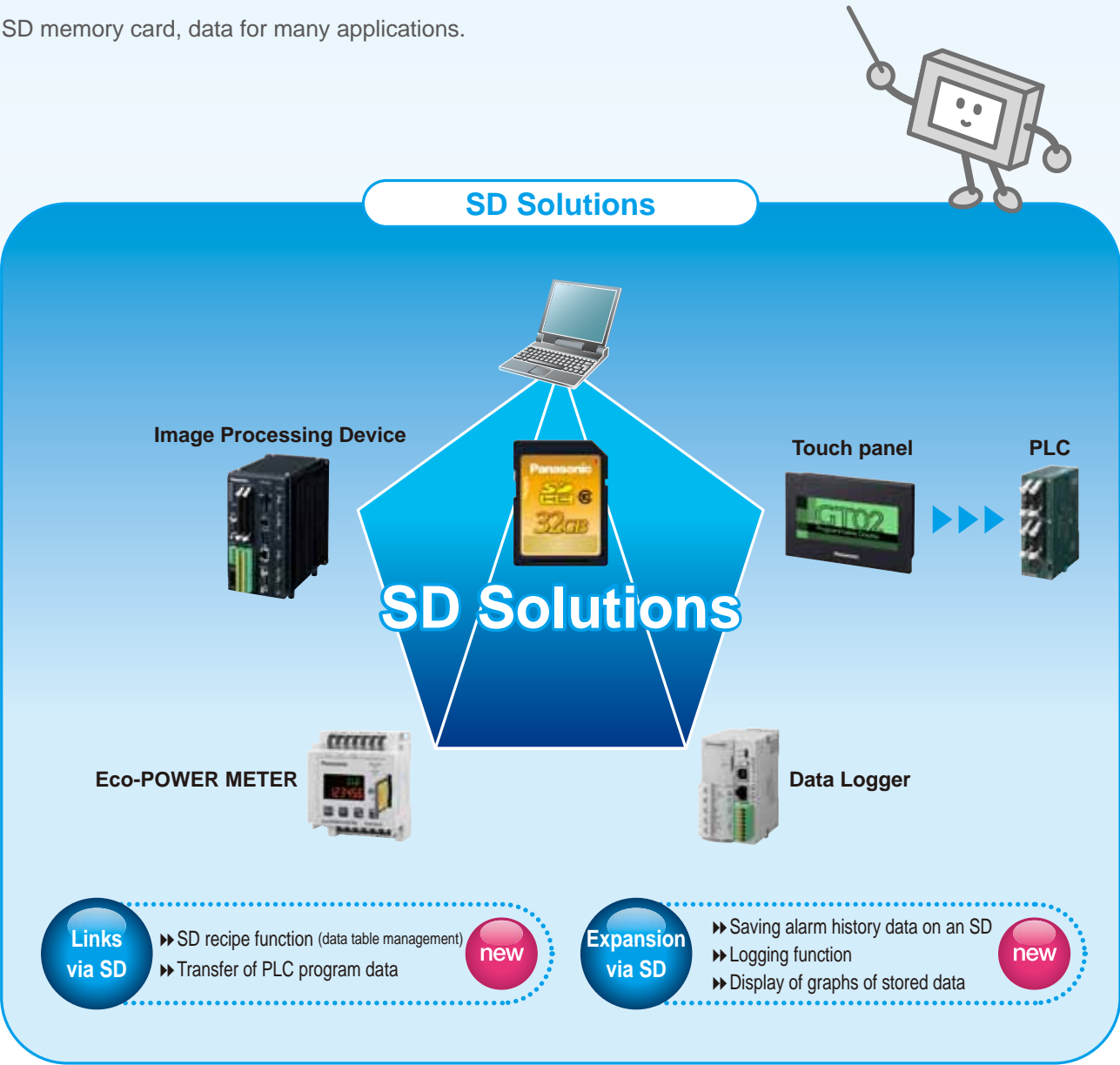
SD Solutions

only Panasonic can provide

Links and expansion via SD

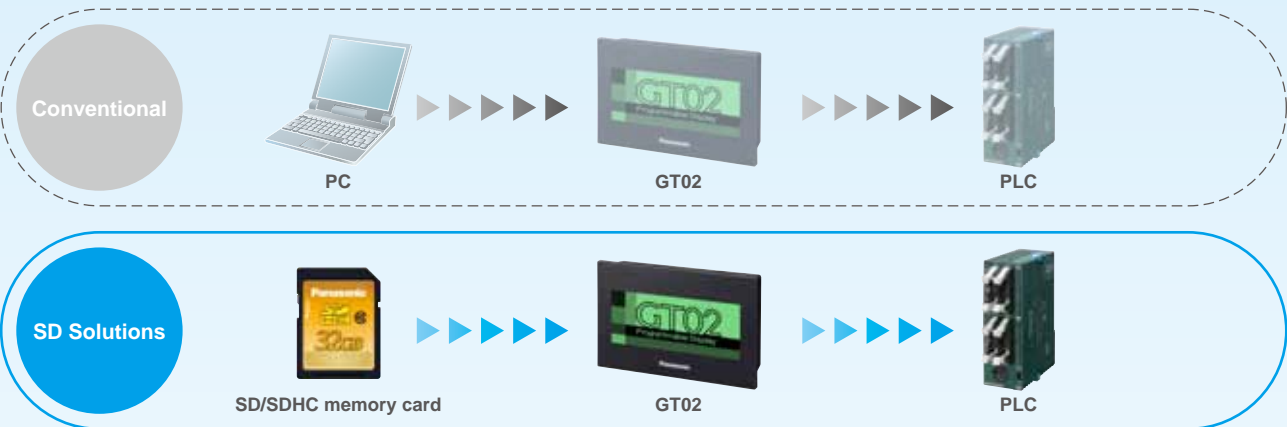
As small-size touch panels have significantly improved their image quality, easy to read displays with sharp characters are no longer special features these days. Instead, programmable displays will evolve with maximum "user-friendliness" in various applications with PCs or other devices.

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



PLC program transfer without the use of a PC

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



SD logging function to produce data "Visualization"

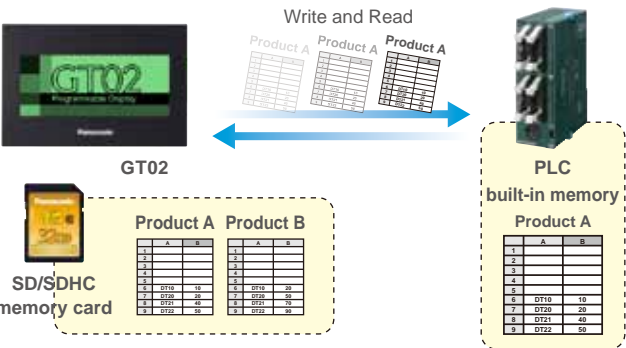
Capable of automatically collecting electrical readings of Eco-POWER METERS and displaying them in a real time graph, allowing users to take quick actions for solutions.

- 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 Datalogger for collecting data.
- One bar graph has a maximum of eight bars and can be combined with line graphs.
- The following three conditions can be selected to trigger an operation to save log data.
(1) Specified time (2) Specified cycle (1 sec to 24 hrs) (3) Specified condition
- Large volumes of data can be saved on an SD/SDHC memory card, which can be carried with you.



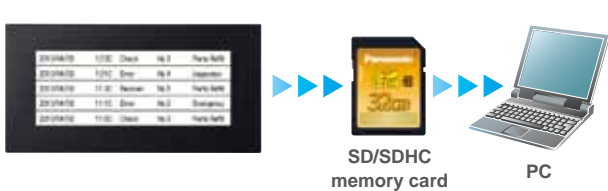
SD recipe function

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



Saving alarm history data on an SD card

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



High Visibility and Excellent Operability



Three-color LED backlights allows for checking machine status at a glance (G type)

The monochrome display (except GT32M) 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.

GT05G



(Normal)

GT12



(In operation)

GT02

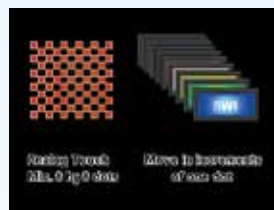
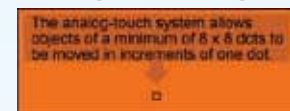


(Emergency)

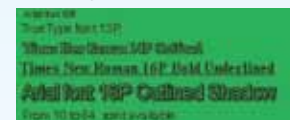
Highly flexible screen design

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”

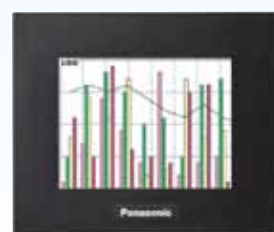


The adoption of the Windows® font has made it possible to choose a font focusing on the screen image and visual quality.



“Graph function”

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



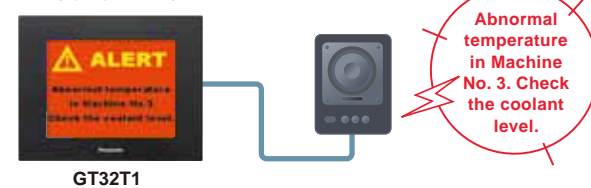
“Flow Display function”

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.



Portrait display ideal for narrow spaces (GT02/GT12)

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



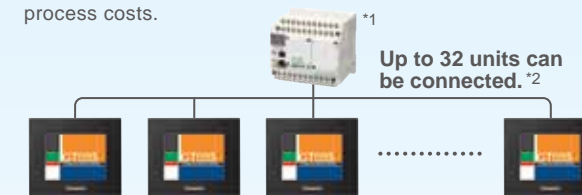
Advanced Functions to Enhance Work Efficiency



Multiple GT displays can be connected to our FP series PLC. (GT02/GT05/GT12/GT32)

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.

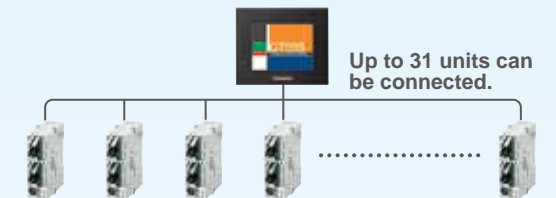


*1: Our FP series PLC

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

Connectivity with multiple PLCs

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

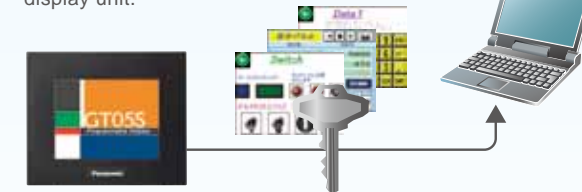


Enhanced security with password protection (GT02/GT05/GT12/GT32)

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

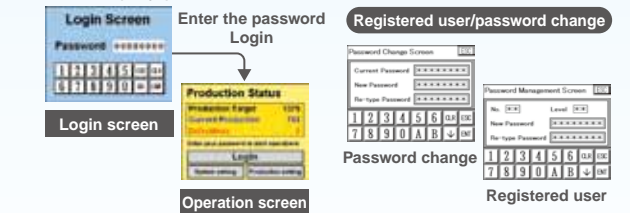
Password-protection function

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



Operation security function

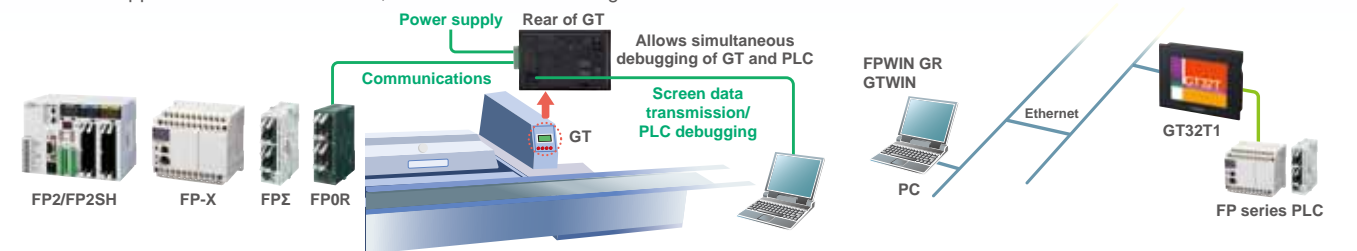
Up to 64 operators can set individual passwords, and up to 16 levels of restrictions can be set on displays and operations for each part. The registered users and passwords can be changed on the display panel.



High-efficiency operation with USB/“through” function

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

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



Easy-to-switch language

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

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

Write Device function

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



GT02

Ultra-compact Programmable Display

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

3.8 inch

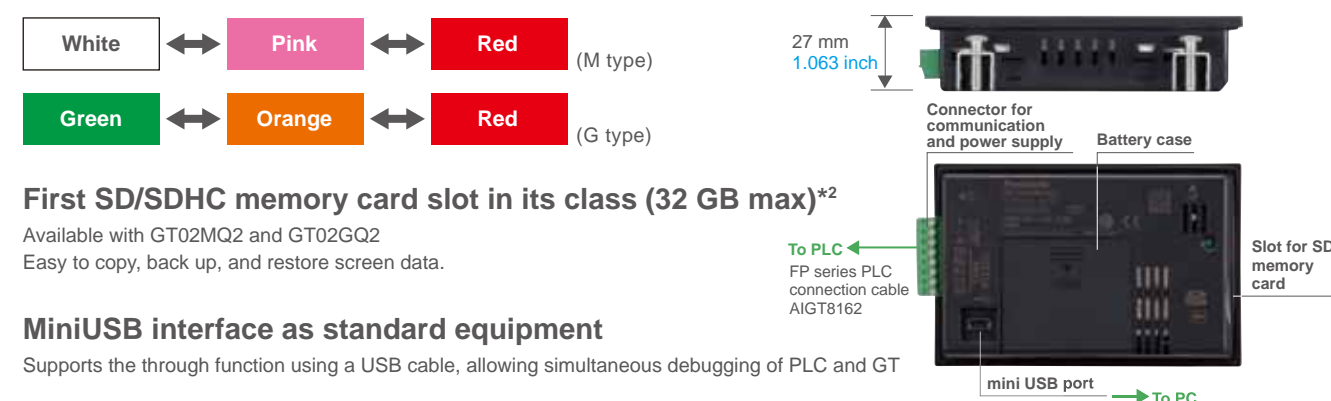


Largest 3.8 inch high-contrast monochrome LCD in its class provides top-level viewability*1.

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

Bright three-color LED backlight indicates the equipment status.

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



First SD/SDHC memory card slot in its class (32 GB max)*2

Available with GT02MQ2 and GT02GQ2
Easy to copy, back up, and restore screen data.

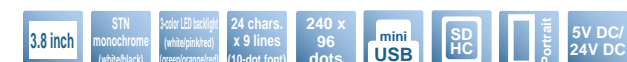
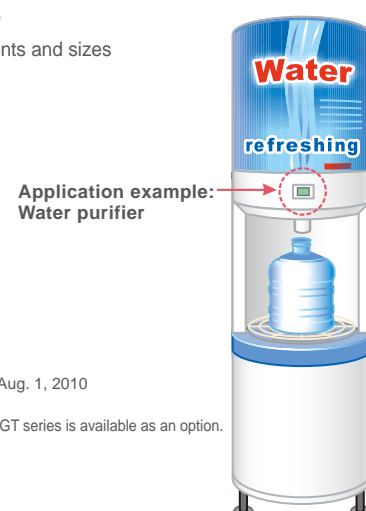
MiniUSB interface as standard equipment

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

Flexible sizing and layout available for switches and characters

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

Equipped with IP67-rated body and newly designed bracket



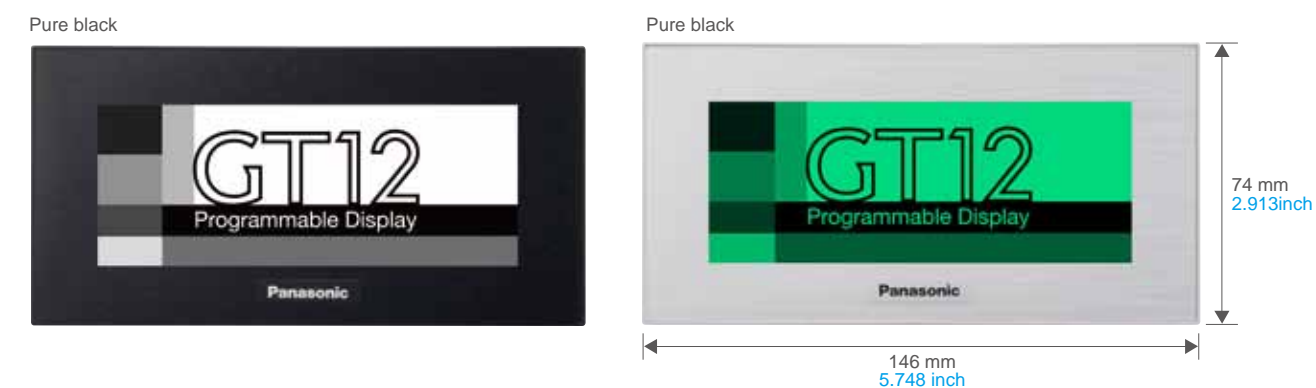
*1: Based on internal research as of Aug. 1, 2010
*2: Compliant with CLASS 10.
• The panel face protection sheet for the GT series is available as an option.

GT12M/GT12G

Compact Programmable Display

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

4.6 inch

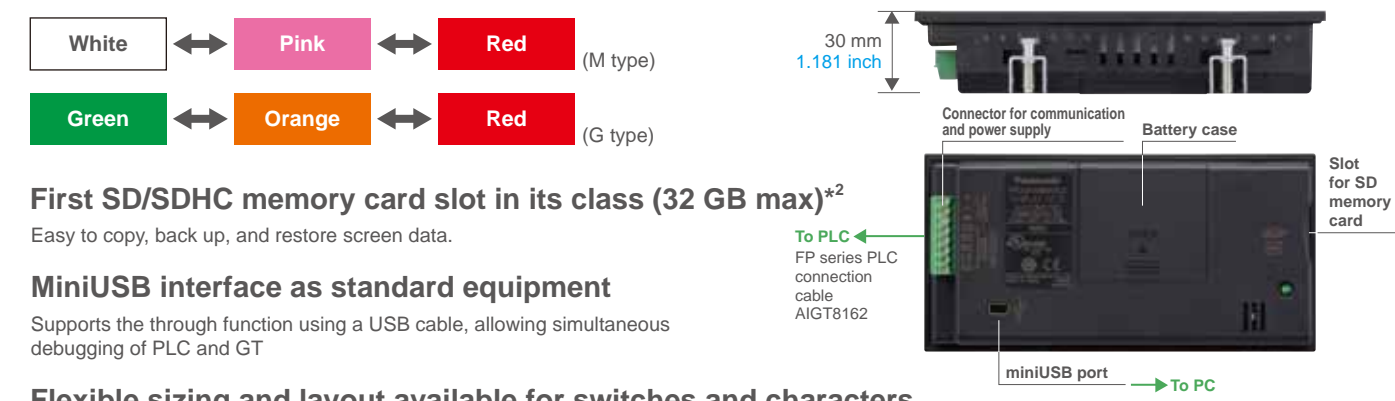


Largest 4.6 inch high-contrast monochrome Half-QVGA LCD in its class provides top-level viewability*1.

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

Bright three-color LED backlight indicates the equipment status.

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



First SD/SDHC memory card slot in its class (32 GB max)*2

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

MiniUSB interface as standard equipment

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

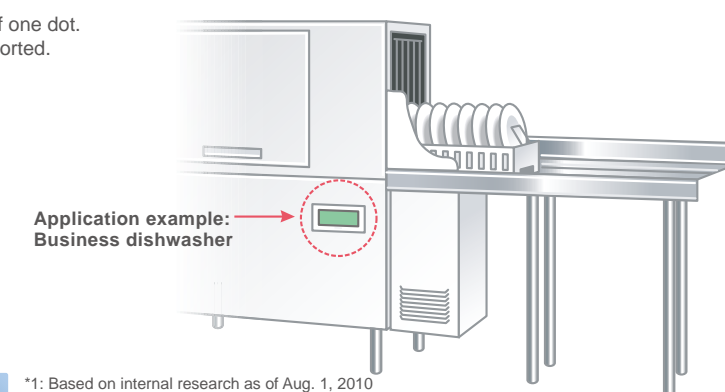
Flexible sizing and layout available for switches and characters

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

Transformer-isolated power supply

The isolated power supply enhances the reliability.

Equipped with IP67-rated body and newly designed bracket



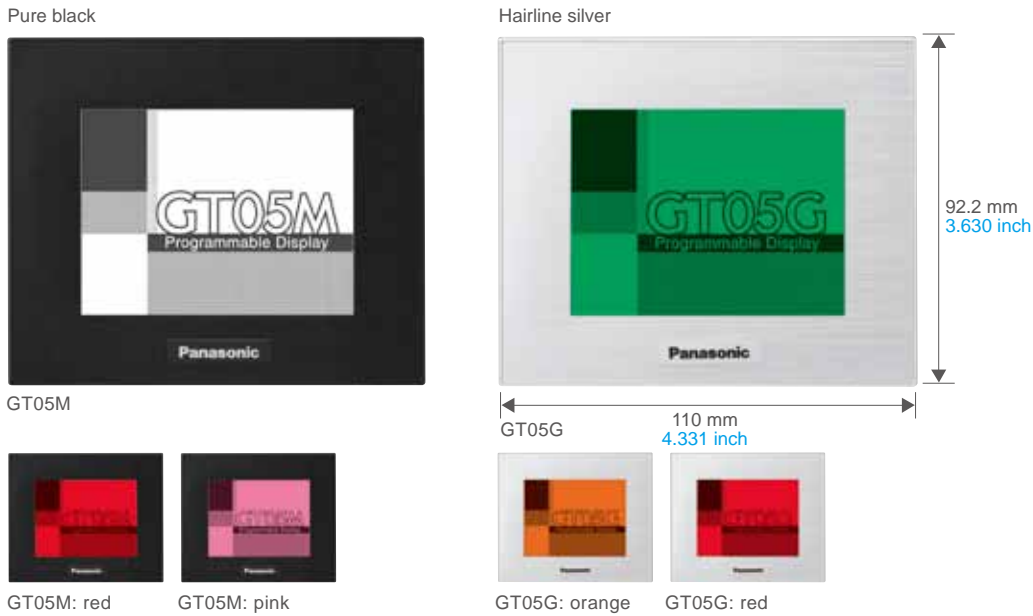
*1: Based on internal research as of Aug. 1, 2010
*2: Compliant with CLASS 10.
• The panel face protection sheet for the GT series is available as an option.

GT05M/GT05G

Compact Programmable Display

Compact size and equipped with a QVGA display.
Capable of showing top-quality images in its compact size

3.5 inch C €



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

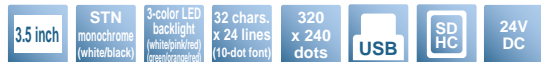
New backlight provides higher brightness. GT05M displays screens in white/pink/red and GT05G in green/orange/red, ensuring both operability and visibility.

SD/SDHC memory card slot as standard equipment (32 GB max)*
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-dot maximum size can be displayed.
Capable of displaying several fine ten-dot characters or one 240-dot character in full screen

Transformer-isolated power supply
The isolated power supply enhances the reliability.



*3: Note that the COM port connector projects an additional 3.9 mm .154 inch. Also take the cable diameter must be taken into account.
* Compliant with CLASS 10.
• The panel face protection sheet for the GT series is available as an option.

GT05S

Compact Programmable Display

The industry's smallest 3.5-inch STN color display
Capable of displaying colorful images with limited space

3.5 inch C €



3.5-inch STN 4,096-color QVGA LCD with a wide viewing angle

Although the LCD is of the STN type, a wide viewing angle (50 deg horizontally, 60 deg vertically) has been achieved, improving visibility from different angles.

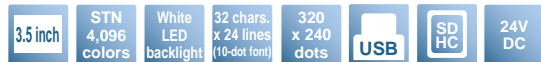
New backlight provides twice the brightness.*1

SD/SDHC memory card slot as standard equipment (32 GB max)*
Easy to copy, back up, and restore screen data.

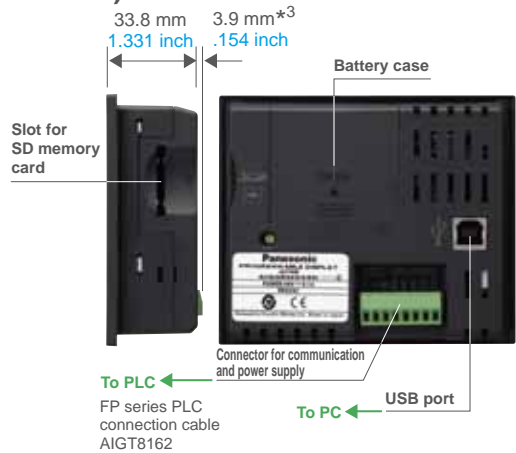
USB interface as standard equipment
Supports the through function using a USB cable, allowing simultaneous debugging of PLC and GT

Characters of a 240-dot maximum size can be displayed.
Capable of displaying several fine ten-dot characters or one 240-dot character in full screen

Transformer-isolated power supply
The isolated power supply enhances the reliability.



* Based on our research as of July 2010
*1: Compared with GT21C
*2: Compliant with CLASS 10.
*3: Note that the COM port connector projects an additional 3.9 mm .154 inch. Also take the cable diameter must be taken into account.
• The panel face protection sheet for the GT series is available as an option.

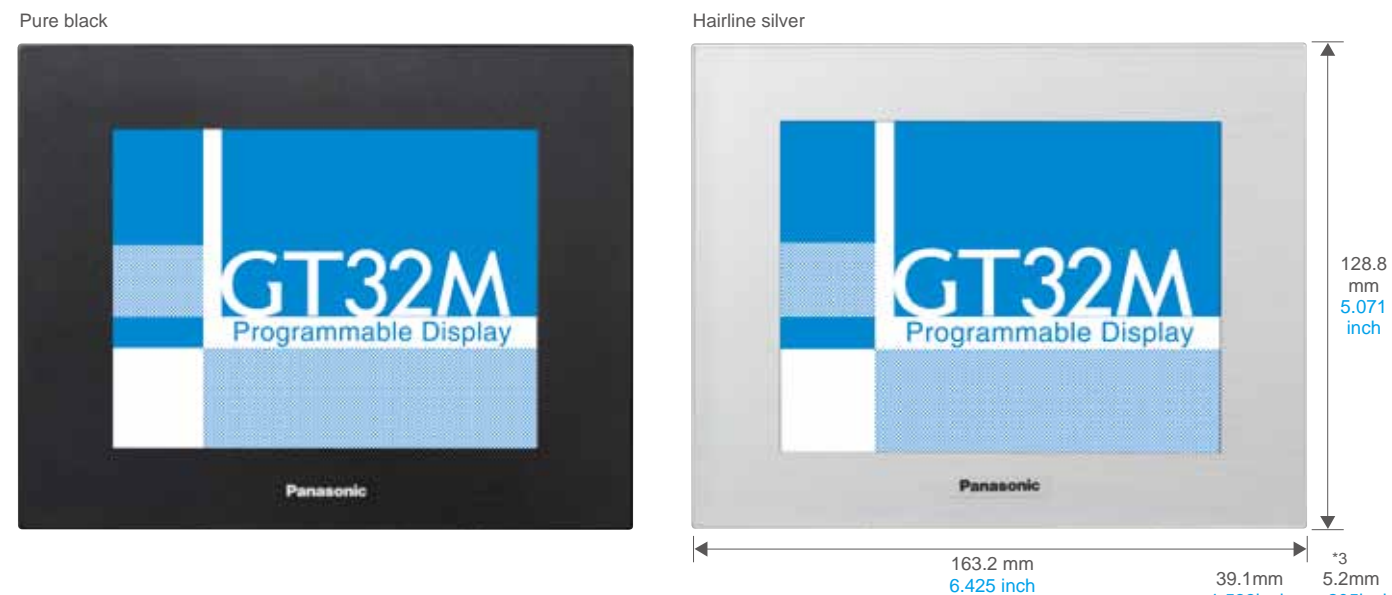


GT32M

Programmable Display

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

5.7 inch  



5.7-inch blue LCD equipped with 75,000-hour long life backlight

Although the backlight is a CFL type, it can last as long as 75,000 hours (approx. 8.5 years), reducing maintenance frequency. *1

Industry's smallest size in the 5-inch class, and 39.1-mm

1.539-inch thin and cool body design

Large display with space-saving outer dimensions of 163.2 x 128.8 x 39.1 mm **6.425 x 5.071 x 1.539 inch**

SD/SDHC memory card slot as standard equipment (32 GB max)*

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*2 to transfer screen data.

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

Transformer-isolated power supply

The isolated power supply enhances the reliability.



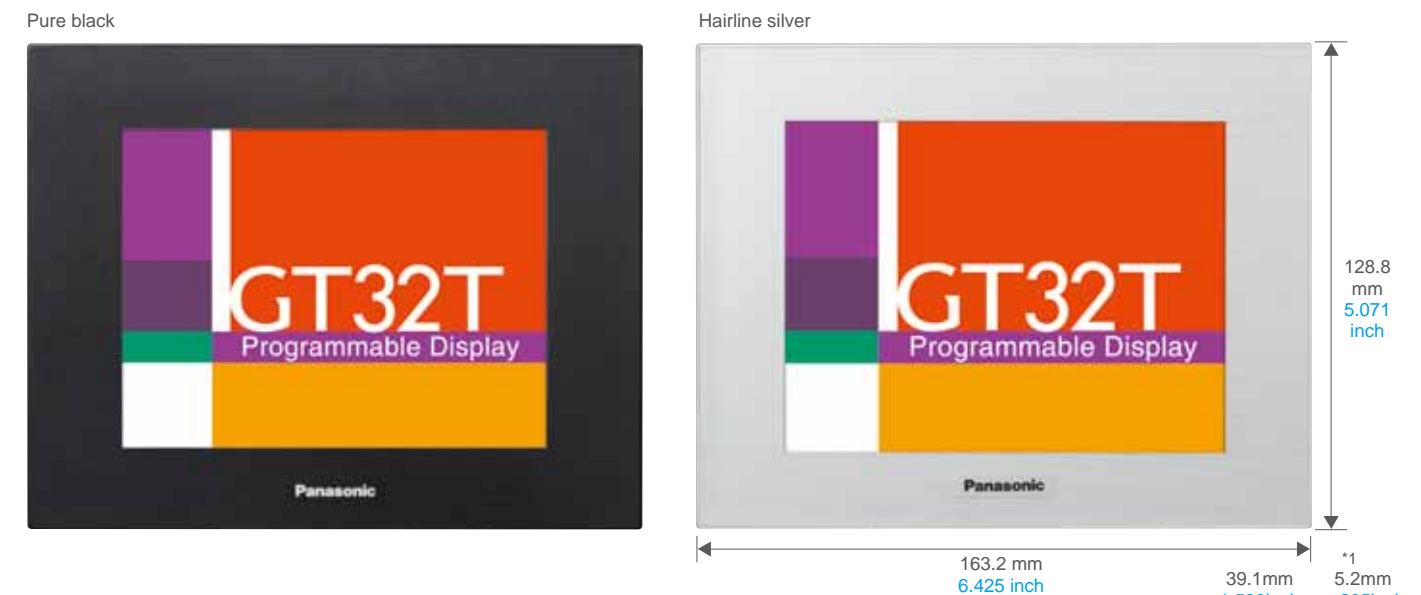
*1: The backlight type for GT32M cannot be changed.
*2: Please use a commercially available A-B type USB cable.
*3: Note that the COM port connector projects an additional 3.9 mm **.154 inch**. Also take the cable diameter must be taken into account.
* Compliant with CLASS 10.
• The panel face protection sheet for the GT series is available as an option.

GT32T0/T1

Programmable Display

Amazingly beautiful and vivid
4,096-color TFT LCD

5.5 inch  



4,096-color TFT LCD screen displays magnificent quality images.

Industry's smallest size in the 5-inch class, and 39.1-mm

1.539-inch thin and cool body design

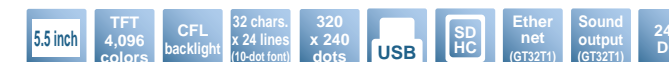
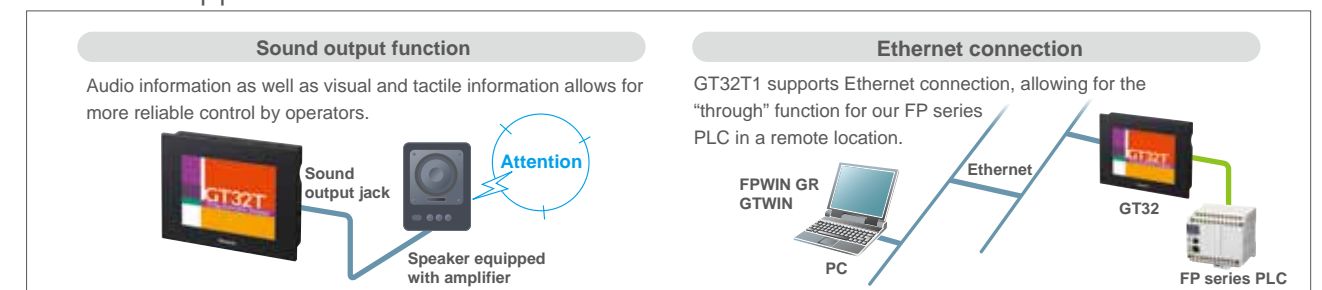
SD/SDHC memory card slot as standard equipment (32 GB max)*

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

USB interface as standard equipment

Transformer-isolated power supply

GT32T1 supports:



*1: Note that the COM port connector projects an additional 5.2mm. Also take the cable diameter must be taken into account.
* Compliant with CLASS 10.
• The panel face protection sheet for the GT series is available as an option.

GTWIN Ver.2.A

Screen Creation Tool for the GT series

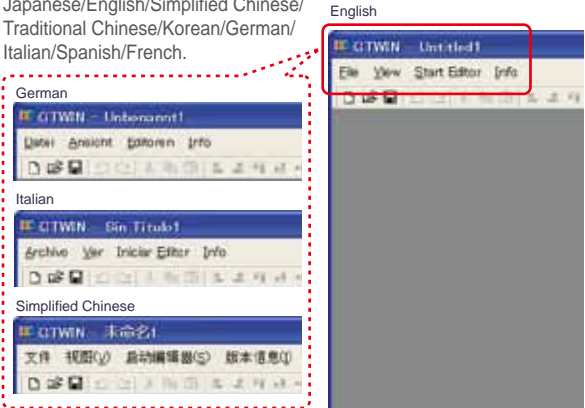
User-friendly interface
makes screen creation easier.



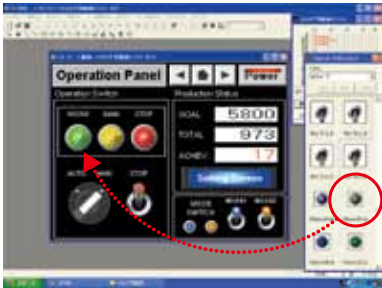
Compatible with Windows®7

Compatible with the nine languages for the menu

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



Simply drag-and-drop parts.



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

More user-friendly parts libraries

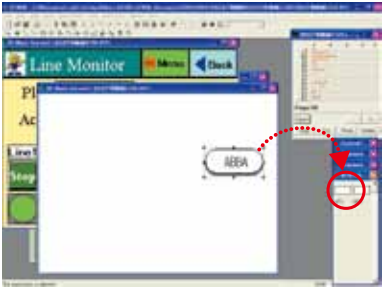


In the previous version, the required parts library had to be selected from the menu every time it was needed. The new version displays a list of parts libraries, making them more user-friendly. You can also freely set the parts library window size.



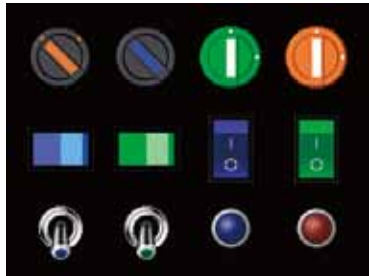
* Windows®: The 64-bit version is not supported.
* GTWIN Ver. 2.8 or later is not compatible with Windows® 95, 98, Me or NT. Please use Ver. 2.71.
The difference file can be downloaded from our website: <http://panasonic-electric-works.net/ac/e>

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



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

4096-color 3D buttons (for GT05S/GT21C/GT32T)



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/traditional Chinese, and Korean

GTseries | PLC Compatibility Table

Company	Series	Model	GT02/GT05/GT12/GT21/GT32	
			RS232C type	RS422 (RS485) type*2
Panasonic Electric Works	FP series	FP-X	○	○
		FP	○	○
		FP-e	○	○
		FP0	○	○
		FP0R	○	○
		FP2	○	○
		FP2SH	○	○
Mitsubishi Electric*1	FX series	FX0N		○
		FX1S	○	○
		FX1N	○	○
		FX1NC	○	○
		FX2N	○	○
		FX2NC	○	○
		FX3UC	○	○
	Q series	FX3U	○	○
		FX3G	○	○
		Q00CPU	○	
		Q01CPU	○	
		Q00JCPU	○	
		Q00HCPU	○	
		Q25HCPU	○	
	A series	Q12HCPU	○	
		Q06HCPU	○	
		Q02HCPU	○	
		Q02CPU	○	
		A1N	○	
		A2N	○	
		A3N	○	
Omron*1	C series	A1S	○	
		A1SJ	○	
		A2SH	○	
		A1SH	○	
		A2CCPU24	○	
		L26CPU-BT	○	○
		C200H	○	
Omron*1	C series	C200HS	○	
		C500	○	
		C500F	○	
		C1000H	○	
		C2000	○	
		C2000H	○	
		C1000HF	○	
	α series	C20H	○	
		C28H	○	
		C40H	○	
		C120	○	
		C120F	○	
		CQM1-CPU42	○	
		SRM1-C02	○	
Omron*1	α series	CPM2A	○	
		CPM1-20CDR-A	○	
		CQM1H-CPU21	○	
		CPM2C	○	
		CPM2B	○	
		C200HE-CPU32-Z	○	
		C200HE-CPU32	○	
Omron*1	α series	C200HG-CPU33-Z	○	
		C200HG-CPU33	○	
		C200HG-CPU53-Z	○	
		C200HG-CPU53	○	
		C200HX-CPU34-Z	○	
		C200HX-CPU34	○	
		C200HX-CPU54-Z	○	
Omron*1	α series	C200HX-CPU54	○	
		C200HE-CPU42-Z	○	
		C200HE-CPU42	○	
		C200HG-CPU43-Z	○	
		C200HG-CPU43	○	
		C200HG-CPU63-Z	○	
		C200HG-CPU63	○	
Omron*1	α series	C200HX-CPU44-Z	○	
		C200HX-CPU44	○	
		C200HX-CPU64-Z	○	
		C200HX-CPU64	○	
		C200HX-CPU65-Z	○	
		C200HX-CPU85-Z	○	
		CV500	○	
Omron*1	CV series	CV1000	○	
		CVM1	○	

Models listed are the models that have been evaluated as of September, 2009.

Company	Series	Model	GT02/GT05/GT12/GT21/GT32		
			RS232C type	RS422 (RS485) type ^{*4}	
Omron ^{*1}	CS1 series	CS1H-CPU67	○		
		CS1H-CPU66	○		
		CS1H-CPU65	○		
		CS1H-CPU64	○		
		CS1H-CPU63	○		
		CS1G-CPU45	○		
		CS1G-CPU44	○		
		CS1G-CPU43	○		
	CJ1 series	CS1G-CPU42	○		
		CJ1H	○		
CP1 series	CJ1M	○			
	CJ1G	○			
	CP1H	○			
		CP1L	○		
		CP1E	○ ^{*4}	○	
Toshiba Machine ^{*1}	TC mini series		○	○	
			Models with RS232 port	Models with RS485 port	
Yokogawa Electric ^{*1}	FA-M3 series	F3SP59-7S	○		
		F3SP58-6S	○		
		F3SP58-6H	○		
		F3SP53-4S	○		
		F3SP53-4H	○		
		F3SP38-6S	○		
		F3SP38-6N	○		
		F3SP35-5N	○		
		F3SP28-3S	○		
		F3SP28-3N	○		
		F3SP25-2N	○		
		F3SP21-0N	○		
KEYENCE ^{*1}	KV series	KV-10/16/24/40	○		
		KV700			
		KV1000	○	○	
		KV3000	○	○	
		KV5000	○	○	
Hitachi	EH-150 EHV series	EHV-CPU128	○	○	
		EHV-CPU64	○	○	
		EHV-CPU32	○	○	
		EHV-CPU16	○	○	
	EH-150 series	EH-CPU104A	○	○	
		EH-CPU208A	○	○	
		EH-CPU316A	○	○	
		EH-CPU516	○	○	
			EH-CPU548	○	○
	MICRO-EH series	10-point			
		14-point	○		
		20-point	○		
		23-point	○	○	
		28-point	○	○	
40-point		○			
		64-point	○		
Web Controller	10-point	○			
	23-point		○		
ALLEN-BRADLEY ^{*1}	Micro Logic series	MicroLogix1000	○		
	SLC-500 series	SLC-5/03	○		
		SLC-5/04	○		
Siemens ^{*1}	S7-200 series	CPU222	○	○	
		CPU216	○	○	
		CPU215	○	○	
		CPU214	○	○	
		CPU212	○	○	
LG ^{*1}	MASTER-K series	80S	○		
		200S	○		
		300S	○		
		1000S			
Modbus ^{*1}	Models that support RTU protocol	*3		○	
General-purpose serial	PEW dedicated protocol	*3	○	○	

*1. PLCs other than Panasonic Electric Works FP series may be limited in the type of device that can be used and addresses. Please see manual for details.
*2. Communication may not be possible when using RS485 depending on the sending and receiving timing with the other device.
*3. We cannot specify what other device you should use; therefore, please test it using the actual equipment before using.
*4. Available for models equipped with on RS232C port.
○: Direct connection is possible to the CPU unit of the PLC.
○: Connection is possible using the communications unit or a signal conversion cable, etc.
(Example: The QJ71C24N or QJ71C24N-R2 calculator link unit is required when using the Mitsubishi Q Series.)
×: Connection is not possible
Blank: Not evaluated.

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

Main Unit and Tool Software

Product name	Description					Part number
	LCD	Power supply	Communication port	Color of main unit	SD memory card slot	
GT02M	STN monochrome (white/pink/red, backlight)	5V DC	RS232C	Hairline silver	Not available	AIG02MQ03D
			RS422 (RS485)			AIG02MQ05D
		24V DC	RS232C			AIG02MQ13D
			RS422 (RS485)			AIG02MQ15D
			RS232C		Available	AIG02MQ23D
			RS422 (RS485)			AIG02MQ25D
GT02G	STN monochrome (green/orange/red, backlight)	5V DC	RS232C	Pure black	Not available	AIG02GQ02D
			RS422 (RS485)			AIG02GQ04D
		24V DC	RS232C			AIG02GQ12D
			RS422 (RS485)			AIG02GQ14D
			RS232C		Available	AIG02GQ22D
			RS422 (RS485)			AIG02GQ24D
GT05M	STN monochrome (white/pink/red, backlight)	24V DC	RS232C	Pure black	Available	AIG05MQ02D
				Hairline silver		AIG05MQ03D
			RS422 (RS485)	Pure black	Available	AIG05MQ04D
				Hairline silver		AIG05MQ05D
GT05G	STN monochrome (green/orange/red, backlight)	24V DC	RS232C	Pure black	Available	AIG05GQ02D
				Hairline silver		AIG05GQ03D
			RS422 (RS485)	Pure black	Available	AIG05GQ04D
				Hairline silver		AIG05GQ05D
GT05S	STN color	24V DC	RS232C	Pure black	Available	AIG05SQ02D
				Hairline silver		AIG05SQ03D
			RS422 (RS485)	Pure black	Available	AIG05SQ04D
				Hairline silver		AIG05SQ05D
GT12G	STN monochrome (green/orange/red, backlight)	24V DC	RS232C	Pure black	Available	AIG12GQ02D
				Hairline silver		AIG12GQ03D
				Pure black		AIG12GQ12D
				Hairline silver		AIG12GQ13D
GT12M	STN monochrome (white/pink/red, backlight)		RS422 (RS485)	Pure black	Available	AIG12GQ04D
				Hairline silver		AIG12GQ05D
				Pure black		AIG12GQ14D
				Hairline silver		AIG12GQ15D
	RS232C	Pure black	Available	AIG12MQ02D		
		Hairline silver		AIG12MQ03D		
		Pure black		AIG12MQ12D		
		Hairline silver		AIG12MQ13D		
GT21C	STN color	24V DC	RS232C	Pure black	Not available	AIGT2230B
				Hairline silver		AIGT2230H
			RS422 (RS485)	Pure black	Not available	AIGT2232B
				Hairline silver		AIGT2232H
GT32M	STN monochrome	24V DC	RS232C	Pure black	Available	AIG32MQ02D
				Hairline silver		AIG32MQ03D
			RS422 (RS485)	Pure black	Available	AIG32MQ04D
				Hairline silver		AIG32MQ05D
GT32T0	TFT color	24V DC	RS232C	Pure black	Available	AIG32TQ02D
				Hairline silver		AIG32TQ03D
			RS422 (RS485)	Pure black	Available	AIG32TQ04D
				Hairline silver		AIG32TQ05D
GT32T1	TFT color	24V DC	RS232C	Pure black	Available	AIG32TQ12D
				Hairline silver		AIG32TQ13D
			RS422 (RS485)	Pure black	Available	AIG32TQ14D
				Hairline silver		AIG32TQ15D
Terminal GTWIN Ver.2.A	English version	Terminal GTWIN CD-ROM				AIGT8001V2

Item		GT02				GT05M / GT05G		GT05S		GT12M/GT12G	
		5V/RS232C	5V/RS422	24V/RS232C	24V/RS422	RS232C	RS422	RS232C	RS422	RS232C	RS422
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.		1.9W max.		2.4W max.		3.6W max.		1.7W max.	
Power supply unit isolation method		—				Transformer isolation					
Ambient temperature		0 to 50C 32 to 122F									
Ambient humidity		20 to 85% RH (No condensation at 25C 77F)									
Storage temperature		−20 to 60C −4 to 140F									
Storage humidity		10 to 85% RH (No condensation at 25C 77F)									
Vibration resistance		5 to 8.4 Hz amplitude: 3.5 mm, 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 .030 inch , 10 minutes in each of the X, Y, and Z directions				5 to 9 Hz amplitude: 3.5 mm, 9 to 150 Hz acceleration 9.8 m/s ² , 10 sweeps each in X, Y and Z directions (1 octave/min.)	
Shock resistance		147 m/s ² , 3 times in each of the X, Y and Z directions				98 m/s ² min: 4 times in each of the X, Y, and Z directions				147 m/s ² , 3 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 s 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		IP67 (in the initial stages)* ¹				IP65 (in the initial stages)* ¹				IP67 (in the initial stages)* ¹	
Mass		Approx. 170 g 5.997 oz				Approx. 230 g 8.113 oz				Approx. 240 g 8.658 oz	
Display	Display device	STN monochrome LCD				STN monochrome LCD		STN color LCD		STN monochrome LCD	
	Resolution	240 (W) x 96 (H) dots				320 (W) x 240 (H) dots				320 (W) x 120 (H) dots	
	Display color	2 colors (black/white)				2 colors (black/white)		4,096 colors		2 colors (black/white, 8-gradation)	
	Displayable area	88.5 (W) x 35.4 (H) mm 3.484 (W) x 1.394 (H) inch				73.0 (W) x 55.2 (H) mm 2.874 (W) x 2.173 (H) inch				108.8 (W) x 40.8 (H) mm 4.283 (W) x 1.606 (H) inch	
	Backlight	GT02G: 3-color LED (green, orange, red) GT02M: 3-color LED (white, pink, red) *No need for replacement				GT05M: 3-color LED (white, pink, red) GT05G: 3-color LED (green, orange, red) *No need for replacement		White LED *No need for replacement		GT12G: 3-color LED (green, orange, red) GT12M: 3-color LED (white, pink, red) *No need for replacement	
Functions	Font types	Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots Characters can be displayed in the 1, 2, 4, or 8 times width or height. TrueType (GTWIN): 10 to 96 dots				Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height, TrueType (GTWIN): 10 to 240 dots, Windows®: 10 to 240 dots				Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots Characters can be displayed in the 1, 2, 4, or 8 times width or height. TrueType (GTWIN): 10 to 120 dots	
	Languages	Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish, French, Turkish									
	Graphics	Straight lines, continuous straight lines, squares, circles, ovals, arcs, elliptic arcs, fan shapes, elliptic fan shapes, beveled squares, bitmaps									
	Number of screens* ⁴	Approx. 250 screens				Approx. 240 screens		Approx. 180 screens		2-gradation: Approx. 250 screens, 8-gradation: Approx. 200 screens	
	Screen No. that can be set	Base screens: No. 0 to 3FF									
	Part functions	Messages, lamps, switches, data, bar graphs, clocks, keyboards, line graphs, and alarm list parts									
	Other functions	Recipe, flow display, write device, alarm record, alarm list, and language switching, GT link, Operation security, Data logging and SD recipe									
	Clock function	—		Provided with a built-in clock function. (Can also refer to and display a PLC clock.) *Buy a commercially available battery. Note: For the GT02 series, only GT02MQ2 and GT02GQ2 have a built-in clock.							
	Contrast adjustment	Contrast can be adjusted by using the touch panel.									
	Automatic communication settings	The communication speed (baud rate) is automatically changed if there is no response from the target equipment.									
Debugging 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										
Touch key resolution		Free layout (8 dots min.)									
Touch key operation force		0.8 N max.									
Touch key life		1 million operations min. (at 25C 77F)									
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	Conforms to RS422
	External communication conditions	Baud rate: 9,600/19,200/38,400/57,600/115,200 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 compatible PLC list for manufacturers and models.)									
	Connector	Connector terminal base (8 pins)									
Screen data transfer interface	Communication standard	USB1.1									
	Communication conditions with personal computers	—									
	Protocol	Our dedicated protocol									
	Connector	USB Mini B				USB TYPE-B				USB Mini B	
	Ethernet port* ⁸	—									
User's memory		F-ROM									
Memory capacity		2 Mbyte						12 Mbyte		2M Mbyte	
Memory		—		Only available with GT02MQ2 and GT02GQ2				SRAM			
Memory backup		—		Only available with GT02MQ2 and GT02GQ2		Lithium battery (replaceable) AFPX-BATT *Does not come with product.					

Conformance to the UL/cUL standards

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

Item		GT21C		GT32M		GT32T0		GT32T1	
		RS232C	RS422	RS232C	RS422	RS232C	RS422	RS232C	RS422
Rated voltage		24 V DC							
Operating voltage range		21.6 to 26.4 V DC							
Power consumption		4.8W max.		10W max.				12W max.	
Power supply unit isolation method		Transformer isolation							
Ambient temperature		0 to 50C 32 to 122F * ²		0 to 50C 32 to 122F * ³					
Ambient humidity		20 to 85% RH (No condensation at 25C 77F)							
Storage temperature		-20 to 60C -4 to 140F							
Storage humidity		10 to 85% RH (No condensation at 25C 77F)							
Vibration resistance		10 to 55 Hz (1-minute cycle): Double amplitude: 0.75 mm .030 inch , 10 minutes in each of the X, Y, and Z directions							
Shock resistance		98 m/s ² 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 s between power supply terminals (by a noise simulator)							
Environmental resistance		IP65 (in the initial stages)* ¹							
Mass		Approx. 330 g 11.610 oz		Approx. 500 g 17.637 oz		Approx. 470 g 16.579 oz		Approx. 480 g 16.932 oz	
Display	Display device	STN color LCD		STN monochrome LCD		TFT color LCD			
	Resolution	320 (W) x 240 (H) dots							
	Display color	256 colors		2 colors (blue/white)		4,096 colors			
	Displayable area	98.0 (W) x 74.0 (H) mm 3.858 (W) x 2.913 (H) inch		113.2 (W) x 86.4 (H) mm 4.457 (W) x 3.402 (H) inch		110.8 (W) x 83.6 (H) mm 4.362 (W) x 3.291 (H) inch			
	Backlight	White LED *No need for replacement		CFL *Not replaceable. Average life: GT32M: 75,000 hours (at 25C 77F), GT32T: 50,000 hours (at 25C 77F)					
Functions	Font types	Fixed (GTWIN) : 8 x 8, 16 x 8, and 16 x 16 dots, Characters can be displayed in the 1, 2, 4, or 8 times width or height, TrueType (GTWIN): 10 to 240 dots, Windows®: 10 to 240 dots							
	Languages	Japanese, English, Simplified Chinese, Traditional Chinese, Korean, German, Italian, Spanish, French, Turkish							
	Graphics	Straight lines, continuous straight lines, squares, circles, ovals, arcs, elliptic arcs, fan shapes, elliptic fan shapes, beveled squares, bitmaps							
	Number of screens* ⁴	Approx. 250 screens		Approx. 240 screens		Approx. 180 screens			
	Screen No. that can be set	Base screens: No. 0 to 3FF							
	Part functions	Messages, lamps, switches, data, bar graphs, clocks, keyboards, line graphs, and alarm list parts							
	Other functions	Recipe, flow display, write device, alarm record, alarm list, and language switching		Recipe, flow display, write device, alarm record, alarm list, language switching, GT link, Operation security, Data logging and SD recipe				Sound output * ⁵	
	Clock function	Provided with a built-in clock function. (Can also refer to and display a PLC clock.) *Buy a commercially available battery.							
	Contrast adjustment	Contrast can be adjusted by using the touch panel.				Not adjustable			
	Automatic communication settings	The communication speed (baud rate) is automatically changed if there is no response from the target equipment.							
	Debugging 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® 95 (OSR2 or later)/ 98/Me/2000/NT/XP/Vista		Dedicated software should be used. Applicable OS: Windows® 2000/XP/Vista/7					
Touch key resolution		Free layout (8 dots min.)							
Touch key operation force		0.8 N max.							
Touch key life		1 million operations min. (at 25C 77F)							
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
	External communication conditions	Baud rate: 9,600/19,200/38,400/57,600/115,200 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 compatible PLC list for manufacturers and models.)							
	Connector	Connector terminal base (8 pins)							
Screen data transfer interface	Communication standard	Tool port (Conforms to RS232C)		USB1.1					
	Communication conditions with personal computers	Baud rate: 9,600/19,200/115,200/230,400 bps* ⁶ Data bits: 8 bits, Parity: None, Odd, Even, Stop bits: 1 bit		—					
	Protocol	Our dedicated protocol							
	Connector	5-pin mini-DIN		USB TYPE-B					
	Ethernet port* ⁹	—		—				Yes (100BASE-TX, 10BASE-T) * ⁷ , * ⁸	
User's memory		F-ROM							
Memory capacity		6.5 Mbyte		2 Mbyte		12 Mbyte (Ver.1.10 or later)			
Memory		SRAM							
Memory backup		Lithium battery (replaceable) CR2032, commercially available *Does not come with product.		Lithium battery (replaceable) AFXP-BATT *Does not come with product.					