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Panasonic

OVERVIEW

HUMAN MACHINE INTERFACES

Panasonic programmable displays

Communication between humans and machines

Whether in industry, shipping and transportation or in modern office systems, today's technology increasingly requires communication between people and machines. The machine's role therein is to display data, results, messages, etc. and to receive instructions and execute tasks assigned by people.

To meet the great demands of technology, new products have been developed over the last several years: operation terminals – also known as HMIs. HMIs allow humans and machines to interact with each other.

Many functions that previously required lamps, LEDs and switches to be connected, for example, can now be fulfilled with just one device. Other functions that simply made life easier for the user came into being. For example, HMIs can save and display text and graphics, report errors as well as display data and machine status online. By entering instructions on the touch panel, the user can transfer data or issue instructions to the machine or the controller of the machine via a communication interface.

Panasonic HMIs

The new HMIs from Panasonic can be used anywhere, from industrial applications to building automation. From the compact 3" to the large touch terminal with a 15" color display for upscale applications, Panasonic HMIs cover a broad spectrum.

Quality that you see

Powerful touch panels with brilliant displays and parameters such as brightness and contrast, which can be individually specified, guarantee superior legibility. Moreover, all LCDs provide a wide field of view. The housing and extremely durable front panel are indicative of the robust design.

All Panasonic HMIs fulfill the required international standards and regulations. As with all Panasonic products, our HMIs are subjected to extreme tests that far exceed normal operating conditions. Components and material, which are selected meticulously, guarantee long life.

Content

GT series

See *the vividness.*

GT02G/M   **GT03-E**   **GT05M**   **GT05G**

GT05S   **GT12**   **GT21C**   **GT32M/T**

GT32-E

Product lineup

	GT02G	GT02M	GT05G	GT05M	GT05S
Rated voltage	5V DC / 24V DC		24V DC		
Display — Screen size (W x H)	3.8" (88.5 x 35.4mm)		3.5" (71 x 53.3mm)		
Display device	STN monochrome LCD		STN monochrome LCD		STN color LCD
Display color	2 colors (black/ white)		2 colors (black/ white)		4096 colors
Resolution (W x H)	240 × 96 dots		320 × 240 dots		
Backlight	3-color LED backlight (green/orange/red)	3-color LED backlight (white/red/pink)	3-color LED backlight (green/orange/red)	3-color LED backlight (white/red/pink)	White LED backlight
Number of characters	216		768		
S Memory capacity (F-ROM)	2048kB		2048kB		12,288kB
External interface — Serial port	RS232C / RS422 (RS485)		RS232C / RS422 (RS485)		
USB- port	✓		✓		✓
Ethernet	–		–		–
SD-memory card	GT02M2*D and GT02G2*D only		✓		✓
Sound output jack	–		–		–

	GT12G	GT12M	GT21C	GT32M	GT32T0/T1
Rated voltage	24V DC				
Display — Screen size (W x H)	4.6" (108.8 x 40.8mm)		4.7" (99 x 74.4mm)	5.7" (113.2 x 86.4mm)	5.5" (110.8 x 83.6mm)
Display device	STN monochrome LCD		STN color LCD	STN monochrome LCD	TFT-color LCD
Display color	2 colors (black/white)		256 colors	2 colors (blue/white)	4096 colors
Resolution (W x H)	320 × 120 dots				
Backlight	3-color LED backlight (green/orange/red)	3-color LED backlight (white/red/pink)	White LED backlight	CFL	
Number of characters	384		768	768	
Memory capacity (F-ROM)	2048kB		6.5MB	2048kB	12,288kB
External interface — Serial port	RS232C / RS422 (RS485)		RS232C / RS422 (RS485)	RS232C / RS422 (RS485)	
USB-port	✓		–	✓	
Ethernet	–		–	–	GT32T1 only
SD-memory card	✓		–	✓	
Sound output jack	–		–	–	GT32T1 only

|	GT03M-E		GT03T-E		GT32M-E		GT32T-E	
Part number	AIG03MQ03DE	AIG03MQ05DE	AIG03TQ13DE	AIG03TQ15DE	AIG32MQ03DE	AIG32MQ05DE	AIG32TQ03DE	AIG32TQ05DE
Rated voltage	24V DC							
Power consumption	Max. 1.9W		Max. 3.1W		Max. 4.8W		Max. 7.2W	
Display — Screen size (W x H)	3.5" (70.6 x 52.9 mm)				5.7" (115.1 x 86.4mm)			
Display device	TFT monochrome LCD		TFT color LCD		TFT monochrome LCD		TFT color LCD	
Display color	2 colors (black/white, 16 shades of gray)		4096 colors		2 colors (black/white, 16 shades of gray)		4096 colors	
Resolution (W x H)	320 × 240 dots							
Backlight	White LED							
Memory capacity (F-ROM)	6.144kB				12.288kB			
External interface — Serial port	RS232C	RS422 (RS485)	RS232C	RS422 (RS485)	RS232C	RS422 (RS485)	RS232C	RS422 (RS485)
USB-port	✓							
Ethernet	–							
SD-memory card	–		✓					
Sound output jack	–							

GT series

Features

1:N and N:1 communication

Up to 32 GT displays can be connected to one PLC unit.
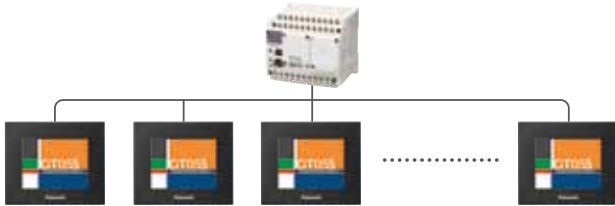
Up to 31 PLC units can be connected to one GT unit.
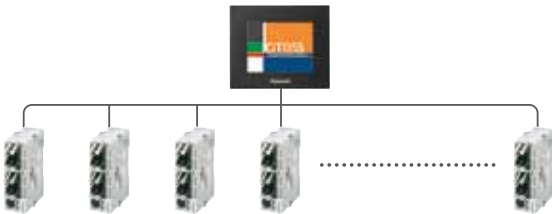
Slot for SDHC memory card of up to 32GB (Class 10)

Can be used for:

- Up-/download PLC programs
- Up-/download GT applications
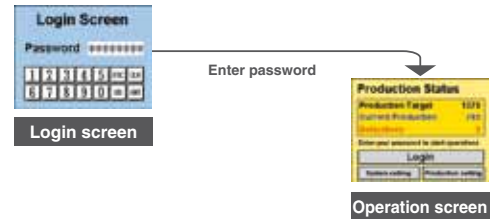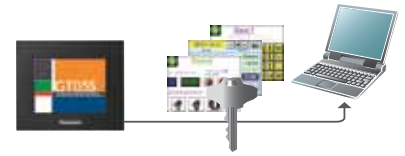- Recipe memory
- Data logging
- Alarm history

SDHC memory card

Alarm list

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

(GT12)

Simple connection and maintenance

The through function improves handling in combination with our FP series PLC. Simultaneous operation of GT data transfer and PLC debugging is available by connecting your GT to a personal computer and to our FP series PLC.

FP7   FP-X   FP∑ (Sigma)   FP0R

Security features

- Password protection

- Operation security

Login screen
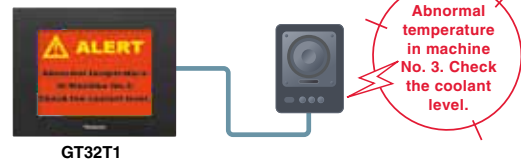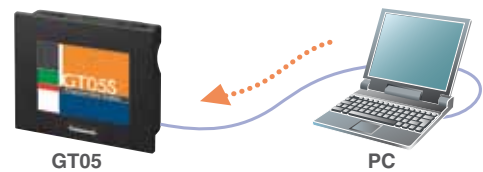
Enter password

Operation screen

Up to 64 operators can set individual passwords, and up to 16 authorization levels can be set.
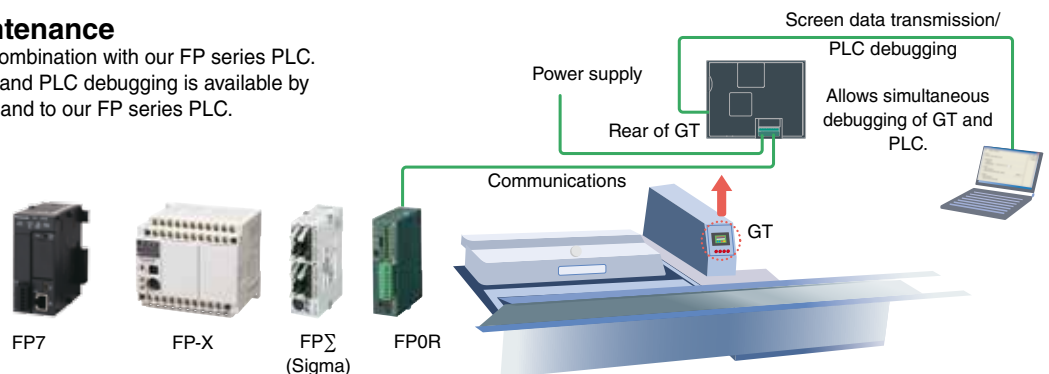
Error warning voice messages (GT32T1)

GT32T1

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

USB interface equipment (not GT21)

GT05   **PC**

Easy-to-use software GTWIN

Please see page 22 for more information.

Screen data transmission/ PLC debugging

Power supply

Rear of GT

Communications

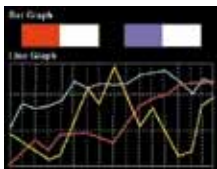Allows simultaneous debugging of GT and PLC.

GT

Switch languages

Conventionally, screens were created for each language. With the multi language function, data can be registered in up to 16 languages for each part. The text can be edited in GTWIN or Microsoft Excel.

		Japanese	English	Simplified Chinese	Traditional Chinese	Korean
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	請多指教	안녕하시
000	SW1	1	1	1	1	1
000	SW1	2	2	2	2	2

Enhanced switch functions

- Custom switches: Design your own switches
- Multi-function switches: Save space on your screen
- Turning on/off switch display function: Display switches only when necessary

Wide variety of functions

"Graph function"

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

"Flow display function"

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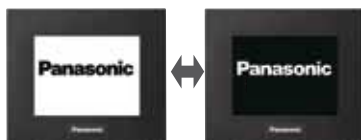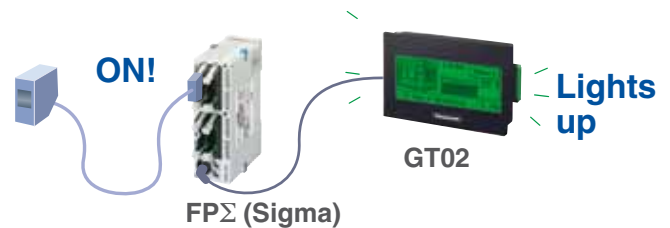
"Recipe function"

Settings by product item and other data (up to 3,600 words) can be transferred to the PLC, simplifying PLC configuration.

The backlight can be controlled via PLC

The backlight color provides the operator with a clear visual cue of the system status.

ON!

Lights up

GT02

FPΣ (Sigma)

PLC data logging function

Values of PLCs, Eco-POWER METERS, etc. can be read and saved in CSV format on an SD memory card. This function serves as a simple logger to, for example, monitor power consumption data of Eco-POWER METERS or collect production quantity and operation status data from PLCs so that the data can be used for preparing monthly reports or problem analysis reports.

GT05 → **SD memory card** → **PC**
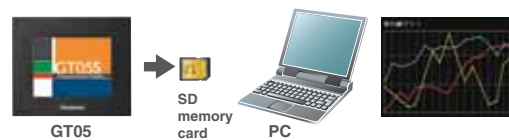
The trigger can be selected from among time, frequency (1sec to 24hrs), and conditions (external trigger). Data can be saved for up to 6,000 entries per type and up to 16 types.*

* Depends on the storage capacity of the SD memory card.

Reverse display of black and white

Black and white display on the screen can be reversed. This function is ideal for highlighting the screen display.

Extended line-graph function

Instaneous display of graphs is possible for devices such as PLCs and Eco-POWER METERs and it is also possible to display graphs for the logged data saved to an SD memory card.

RS485

Ultra compact programmable display

GT02

The compact and innovative 3.8" STN display creates clear and vivid images

Ash gray

Black

74mm

112mm

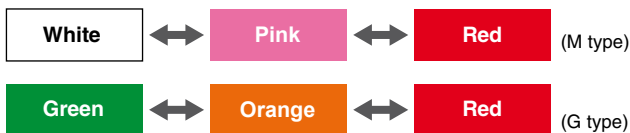### 3.8'' high-contrast monochrome LCD, 3-color LED backlight

The high-definition LCD (240 x 96 dots) increases information capacity. The 3-color LED backlight is maintenance-free and controllable and comes in two variations: green/orange/red and white/pink/red.

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

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

27mm

Connector for communication and power supply

Battery

PLC
FP series connection cable (AIGT8162 and AIGT8142)

Slot for SD memory card

USB port — PC

The first programmable display of its class which has an SD memory card slot

The SD/SDHC memory card slot of AIG02MQ2*D and AIG02GQ2*D allows for easy screen data transfer, data logging and storage.
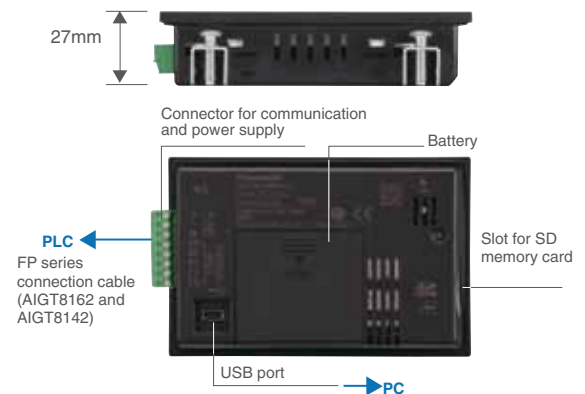
Flexible sizing and layout available for switches and characters

Switches with a minimum size of 8 x 8 dots can be moved in increments of 1 dot.
A wide range of character fonts and sizes (10 to 96 dots) are supported.

Water
refreshing

Application example:
Water purifier

IP67-rated body

Highly impervious to dampness, water, vapors, etc. In addition, a new bracket for more secure fastening has been designed.

Horizontal und vertical mounting

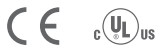This increases the scope of applications significantly.

Newest member of the ‚tough panels' family

GT03-E "tough panel"

Welcome a new member of the GT tough series – the compact GT03-E

GT03M-E

GT03T-E

53.7mm

98mm

Optimal for operation under extreme conditions

With its ability to cope with a wide temperature range of -20°C to +60°C, the GT03-E is perfect for outdoor use. Installation is possible in landscape and portrait orientation.

Resistant to UV rays

The special UV coating slows down aging, increasing the panel's service life.

Excellent performance even when exposed to splashing water

The front panel has a waterproof construction (degree of protection: IP67).

Low power consumption

The GT03-E only requires 1.9W for the monochrome type and 3.1W for the color type.

High visibility display even in bright environments

Thanks to the anti-glare layer, the display is easy to read even in bright sunlight.

Same resolution as the 5.7 inch model (GT32-E)

Both GT03-E and GT32-E have the same resolution of 320x240 pixels, allowing you to re-use screen data.
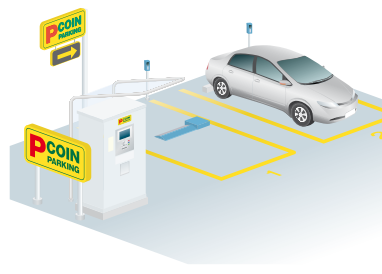
The industry's smallest body among 3.5 inch screen displays

Based on research conducted by our company as of February, 2013, the GT03-E has the smallest size within its class.
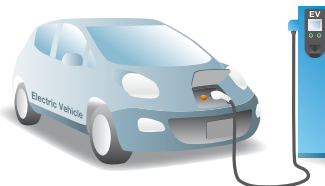
Applications

Car washing machine

Coin-operated parking

Charging station for electric vehicles
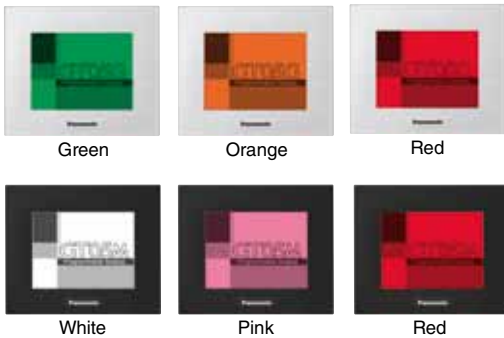
Food filling machine

Compact monochrome display

GT05M/GT05G

[3.5 inch] [320x240 dots] [LED Backlight ●●●] [LED Backlight ●○●] [STN mono-chrome] [USB] [SD]

3.5'' high-contrast black QVGA LCD

Hairline silver

CE

Green	Orange	Red
White	Pink	Red

GT05S

[3.5 inch] [320x240 dots] [SD] [STN] [USB]

3.5'' 4096-color QVGA LCD

Pure black

92.2mm

110mm

Slot for SD memory cards

USB port

Connector for communication and power supply
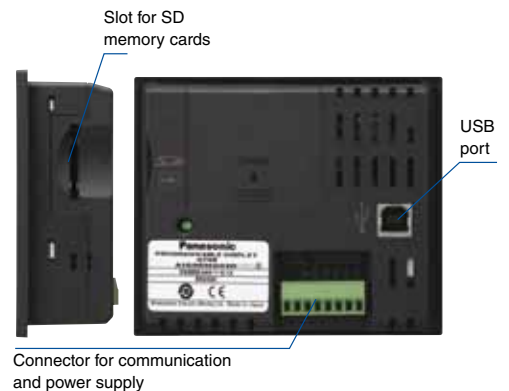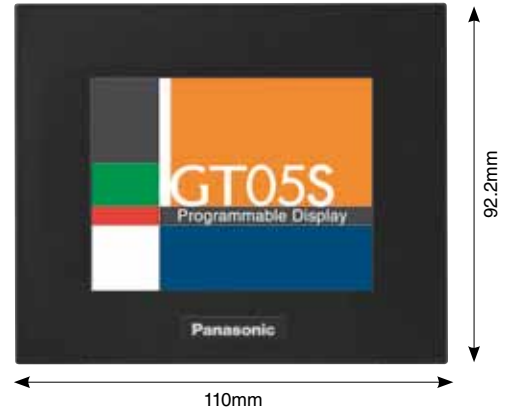
Interfaces

The GT05 series provides an RS232C or an RS422 (RS485) interface, which allows the GT05 touch terminal to be connected to PLCs of several manufacturers or other intelligent devices.

SD/SDHC memory card slot (up to 32GB max.)

Easy to copy, back up and restore GT projects, PLC programs, alarm lists, recipes, and data logs.

USB interface

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

GT05M/GT05G

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

The monochrome type GT05 programmable displays come in 12 variations. Whether with a RS232C or RS422 (RS485) interface, color or monochrome display, black or silver housing, the choice is up to you!

GT05S

The industry's smallest 3.5" TFT color display with space-saving outer dimensions of 110 x 92.2 x 33.8mm.

The LCD is an STN type, and a wide viewing angle (50° horizontally, 60° vertically) has been achieved, improving visibility from different angles.
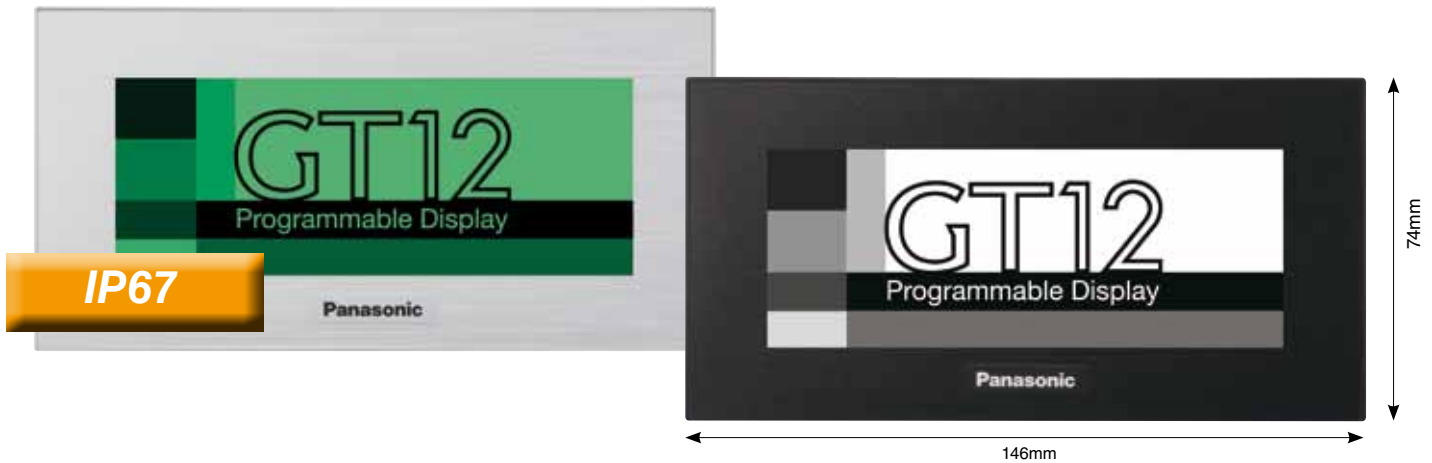
The GT05 series offers a host of innovative functions and is also pleasing to the eye. The 4096-color graphical display allows you to create effective and user friendly

Bright and vivid

GT12

IP67-rated body, top class brightness

IP67

74mm

146mm
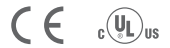
Slim body equipped with a half-QVGA LCD - the highest visual quality in its class

The high-definition (320 x 120 dots) LCD produces crisp images, without annoying dots or lines.

The bright, 3-color LED backlight indicates the equipment status

The color combination is white/pink/red or green/orange/red. The backlight enhances both operability and visibility.
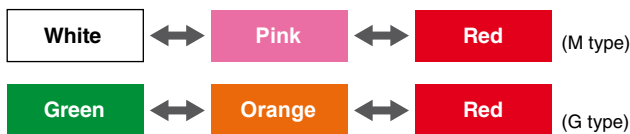
| White | ⟷ | Pink | ⟷ | Red | (M type) |

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

SD/SDHC memory card slot (up to 32GB max.)

Easy to copy, back up and restore GT projects, PLC programs, alarm lists, recipes, and data logs.

Mini-USB interface as standard equipment

Supports the through function using a USB cable, allowing simultaneous debugging and programming 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 are supported. (10 to 120 dots).

Newly designed
bracket for more
secure fastening

Mini-USB

Fast data transfer
possible without
a dedicated cable

The first
SD memory card
slot in its class

Connector
located for
efficient wiring

Improved environmental
resistance rated IP67

Programmable display with real-time clock

GT21C

The 4.7'' STN 256-color touch panel displays vivid images
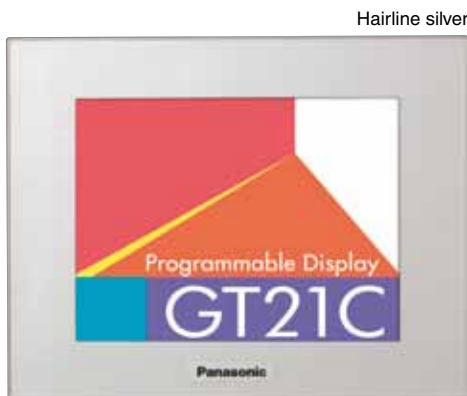
Hairline silver
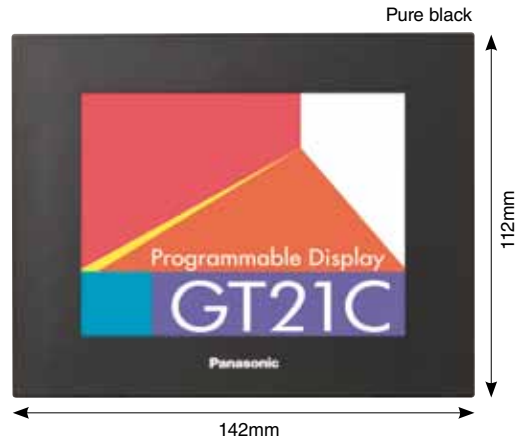
Pure black

112mm

142mm

Vivid, top quality images in a small-sized panel

The new 3D-design buttons provide higher visibility and operability.
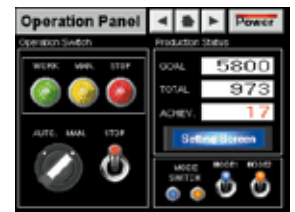
Sleek and sophisticated body design

The sleek design elegantly fits into a variety of installation locations without spoiling the design of the target equipment. The projection from the target equipment surface is as low as 4mm, allowing for a beautiful finish. At only 29.9mm, the body's depth is the industry's thinnest (excluding the projection).

33.9mm

29.9mm

7mm
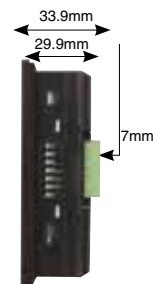
High operability achieved by the customizable screen layout

The analog-touch design allows you to adjust the screen layout in increments of one dot. TrueType font character sizes and arrangement.

64Point

SW1

Maintenance-free white LED backlight

The white LED backlight eliminates backlight replacement work.
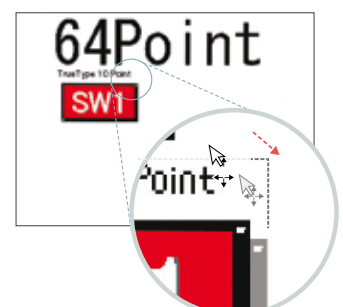
Environmentally friendly low power consumption design

Lower power consumption of 4.8W or less.

Long-life programmable display

GT32M

Clear and beautiful display achieved by the high-definition, long-life CFL backlight

CE c(UL)us

Hairline silver

Pure black

**Backlight life
approx. 75,000 hours**

128.8mm

163.2mm
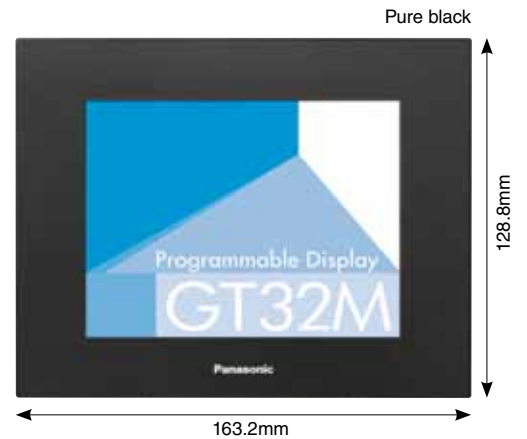
The industry's smallest size in the 5.7'' class, only 39.1mm deep

Large display with space-saving outer dimensions of 163.2 x 128.8 x 39.1mm.

SD/SDHC memory card slot (up to 32GB max.)

Easy to copy, back up and restore GT projects, PLC programs, alarm lists, recipes, and data logs.

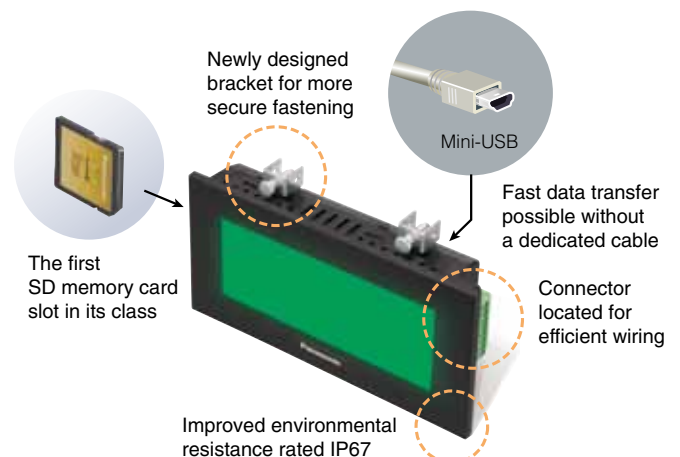## USB interface as standard

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

Transformer-isolated power supply

The isolated power supply enhances reliability.

39.1mm   5.2mm

Slot for SD memory card

To PC ← USB port

Connector for communication and power supply

To PLC ←
FP series PLC connection cable
AIGT8162
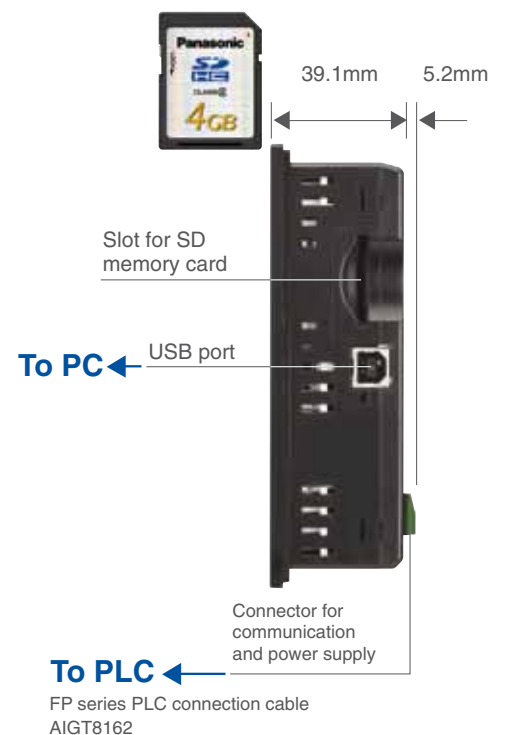
Outdoor programmable display

GT32-E

Programmable display with excellent legibility for a wide variety of outdoor applications

Hairline silver

Pure black

128.8mm

163.2mm
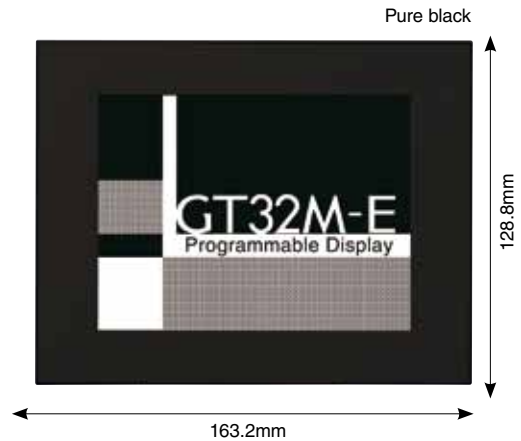
Excellent legibility

Improved brightness, high contrast, and a non-reflecting display ensure excellent legibility in sunlight, rain or fog.

Extensive application range

The ambient temperature ranges from -20°C to + 60°C and the ambient humidity from 10 to 90% RH.

SD/SDHC memory card slot (up to 32GB max.)

Easy to copy, back up and restore GT projects, PLC programs, alarm lists, recipes, and data logs.

39.1 mm   1.5 mm

Slot for SD memory card

To PC
To PLC

USB port
Connector for communication and power supply
PLC connection cable AIGT8162
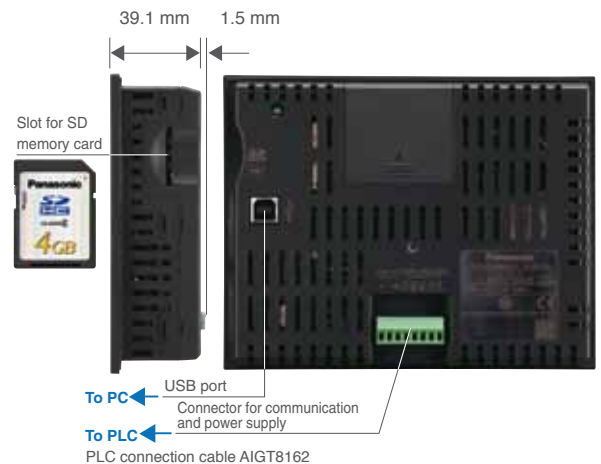
Highly impervious to dampness, water, vapors, etc.

The front panel of the GT-E series provides an IP67 degree of protection, allowing the displays to be used in outdoor environments.

USB interface

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

Anti-glare panel

Thanks to the non-reflecting panel, the display remains clear and easy to read under almost all circumstances. A UV coating ensures a long lifetime for the anti-glare layer.

Anti-glare front coating

No anti-glare front coating
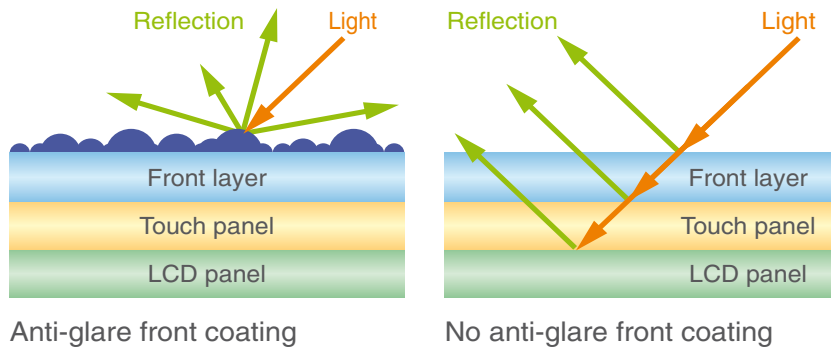
UV protection layer

GT32-E programmable displays are UV-resistant. The front protection layer also slows down the aging process caused by UV radiation.

Transformer-isolated power supply

The isolated power supply enhances reliability.

GT32T-E

5.7", TFT color LCD with 4096 colors, backlight using long-life LED (approx. 50,000 hours).

New GT32T-E model

Standard GT32T

GT32M-E

5.7", monochrome LCD with 16 shades of gray, backlight using long-life LED (approx. 70,000 hours).

New GT32M-E model

Standard GT32M

4096 colors panel

GT32T

Sleek new design with a full range of functions

Hairline silver

4096 colors

Pure black

128.8mm

163.2mm
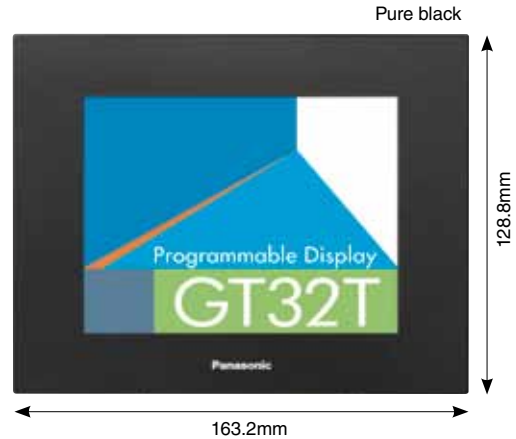
GT32T equipped with 4096-color TFT display

All GT32T types are available in the same size. GT32T0/GT32T1 is ideal for use with upscale equipment models or color-coded operation instructions.

SD/SDHC memory card slot (up to 32GB max.)

Easy to copy, back up and restore GT projects, PLC programs, alarm lists, recipes, and data logs.

Sound output (GT32T1)

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

ERROR OCCURRED!

Sound output jack

Speaker equipped with amplifier
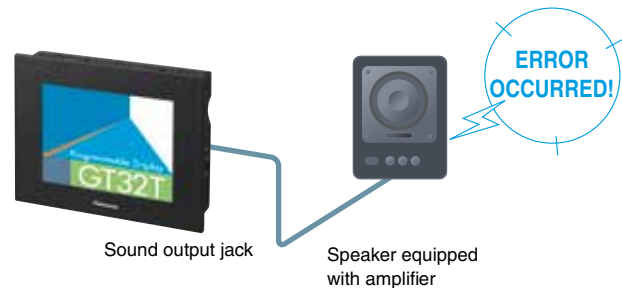
Ethernet connection (GT32T1)

GT Memory Editor (attached to GTWIN) allows alarm record data and line graph data files to be created in addition to editing internal memory.

FPWIN Pro
GTWIN

Ethernet

PC

GT32
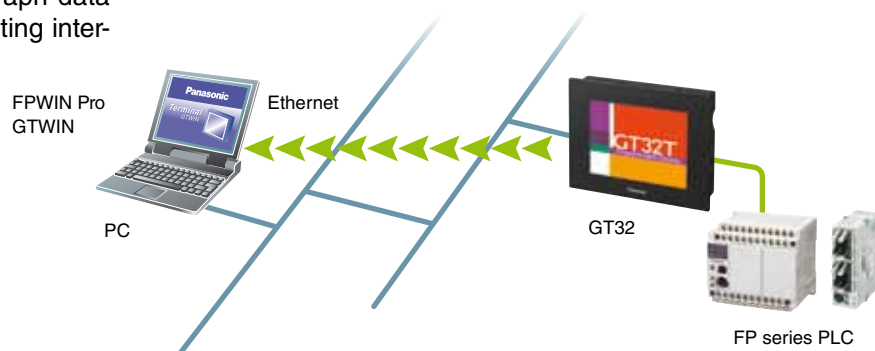
FP series PLC

GT series: PLC compatibility

Company	Series	Model name	GT series RS232C type	GT series RS422 (RS485) type[1]
Panasonic Electric Works	FP series	FP-X	◎	○
		FPΣ (Sigma)	◎	○
		FP-e	◎	○
		FP0/FP0R	◎	○
		FP7	◎	○
		FP2SH	◎	○
Mitsubishi Electric[1]	FX series	FX0N	○	◎
		FX1S	○	◎
		FX1N	○	◎
		FX1NC	○	◎
		FX2N	○	◎
		FX2NC	○	◎
		FX3UC	○	◎
		FX3U	○	◎
		FX3G	○	◎
	Q series	Q00CPU	◎	
		Q01CPU	◎	
		Q00JCPU	○	
		Q00HCPU	○	
		Q00UJCPU	◎	
		Q26UDHCPU	○	○
		Q25HCPU	◎	
		Q12HCPU	◎	
		Q06HCPU	◎	
		Q02HCPU	◎	
		Q02CPU	◎	
	A series	A1N	○	
		A2N	○	
		A3N	○	
		A1S	○	
		A1SJ	○	
		A2SH	○	
		A1SH	○	
		A2CCPU24	◎	
	L series	L26CPU-BT	○	○
Omron[1]	C series	C200H	○	
		C200HS	◎	
		C500	○	
		C500F	○	
		C1000H	○	
		C2000	○	
		C2000H	○	
		C1000HF	○	
		C20H	◎	
		C28H	◎	
		C40H	◎	
		C120	○	
		C120F	○	
		CQM1-CPU42	◎	
		SRM1-C02	◎	
		CPM2A	◎	
		CPM1-20CDR-A	○	
		CQM1H-CPU21	◎	
		CPM2C	◎	
		CPM2B	◎	
	α series	C200HE-CPU32-Z	○	
		C200HE-CPU32	○	
		C200HE-CPU32-Z	○	
		C200HE-CPU32	○	
		C200HG-CPU53-Z	○	
		C200HG-CPU53	○	
		C200HX-CPU34-Z	○	
		C200HX-CPU34	○	
		C200HX-CPU54-Z	○	
		C200HX-CPU54	○	
		C200HE-CPU42-Z	◎	
		C200HE-CPU42	◎	
		C200HG-CPU43-Z	◎	
		C200HG-CPU43	◎	
		C200HG-CPU63-Z	◎	
		C200HG-CPU63	◎	
		C200HX-CPU44-Z	◎	
		C200HX-CPU44	◎	
		C200HG-CPU64-Z	◎	
		C200HG-CPU64	◎	
		C200HX-CPU65-Z	◎	
		C200HX-CPU65	◎	

Company	Series	Model name	GT series RS232C type	GT series RS422 (RS485) type[1]
Omron[1]	CV series	CV500	◎	
		CV1000	◎	
		CVM1	◎	
	CS1 series	CS1H-CPU67	◎	
		CS1H-CPU66	◎	
		CS1H-CPU65	◎	
		CS1H-CPU64	◎	
		CS1H-CPU63	◎	
		CS1G-CPU45	◎	
		CS1G-CPU44	◎	
		CS1G-CPU43	◎	
		CS1G-CPU42	◎	
	CJ1 series	CJ1H	◎	
		CJ1M	◎	
		CJ1G	◎	
		CJ2H	◎	
	CP1 series	CP1H	○	
		CP1L	○	
		CP1E	◎	
Toshiba Machine[1]	TC mini series		Models with RS232C port	Models with RS485 port
Yokogawa Electric[1]	FA-M3 series	F3SP59-7S	◎	
		F3SP58-6S	◎	
		F3SP58-6H	◎	
		F3SP53-4S	◎	
		F3SP53-4H	◎	
		F3SP38-6S	◎	
		F3SP38-6N	◎	
		F3SP35-5N	◎	
		F3SP28-3S	◎	
		F3SP28-3N	◎	
		F3SP25-2N	◎	
		F3SP21-0N	◎	
KEYENCE[1]	KV series	KV-10/16/24/40	◎	
		KV-700	◎	○
		KV-1000	◎	○
		KV-3000	◎	○
		KV-5000	○	○
Hitachi Industrial Equipment Systems[1]	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	◎	
		10-point	◎	◎
ALLEN-BRADLEY[1] Models that support DF 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	○	◎
LG[1]	MASTER-K series	80S	◎	
		200S	◎	
		300S	○	
		1000S	○	
Modbus[1]	Models that support RTU protocol	*1	◎	◎
Program controlled communication[1]	Panasonic MEWTOCOL	*FP-X[1]	◎	◎

[1] Please see manual or contact manufacturer for details.
◎: Direct connection to the CPU of the PLC is possible.
○: 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.)

Specifications/dimensions

GT series

		GT02G/GT02M		GT05M/GT05G		GT05S		GT12M/GT12G		GT21C	
		RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485
Rated voltage		5V / 24V DC		24V DC							
Operating voltage range		4.5 to 5.5V DC at 5V 21.6 to 26.4V DC at 24V DC		21.6 to 26.4V DC							
Current consumption		1W max. at 5V DC 2W max. at 24V DC		2.4W max.		3.6W max.		1.7W max.		4.8W max.	
Power supply unit isolation method		–		Transformer isolation				Transformer isolation		–	
Ambient temperature		0 to 50°C								0 to 50°C[*1]	
Ambient humidity		20 to 85% RH (no condensation at 25°C)									
Storage temperature		-20 to 60°C									
Storage humidity		10 to 85% RH (no condensation at 25°C)									
Vibration resistance		5 to 8.4Hz, amplitude: 3.5mm; 8.4 to 150Hz, acceleration 9.8 m/s²; 10 sweeps each in X, Y and Z directions (1 octave/min)		10 to 55Hz (1-minute cycle): Double amplitude: 0.75mm, 10 minutes in each of the X, Y, and Z directions				5 to 9Hz, amplitude: 3.5mm; 9 to 150Hz, acceleration 9.8m/s²; 10 sweeps each in X, Y and Z directions (1 octave/min)		10 to 55Hz (1-minute cycle); double amplitude: 0.75mm; 10 minutes in each of the X, Y, and Z directions	
Shock resistance		147m/s² min: 3 times in each of the X, Y, and Z directions		98m/s² min: 4 times in each of the X, Y, and Z directions				147m/s²: 3 times in each of the X, Y, and Z directions		98m/s² min: 4 times in each of the X, Y, and Z directions	
Noise resistance		1000V [P-P] min., pulse width of 50ns, 1ms between power supply terminals (by a noise simulator)* AIGT0030B1/AIGT0030H1: When the ferrite device supplied with our PLC connection cable (AIGT8142) is mounted									
Protection class		IP67[*4]						IP65 (in the initial stages)[*4]			
Weight		Approx. 160g						Approx. 240g		Approx. 330g	
Functions	Font types	Scalable GT and Windows fonts									
	Languages	English, German, French, Spanish, Italian, Turkish, Japanese, Korean, Traditional Chinese, Simplified Chinese									
	Graphics	Straight lines, continuous straight lines, squares, circles, ovals, arcs, elliptic arcs, fan shapes, elliptic fan shapes, beveled squares, bitmaps									
	Number of screens[*5]	Approx. 160				Approx. 180		2-gradation: approx. 250 8-gradation: approx. 200		Approx. 250	
	Screen No. that can be set	Base screens: No. 0 to 3FF, keyboard screens: No. 0 to 7									
	Part functions	Messages, lamps, switches, data, bar graphs, clocks, keyboards, line graphs, and alarm lists									
	Other functions	Recipe, flow display, write device, alarm record, alarm list, language switching, security levels, data logging, SD card recipe								Recipe, flow display, write device, alarm record, alarm list, language switching	
	Clock/calendar 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). Buy a commercially available battery.							
	Contrast adjustment	Contrast can be adjusted by using the touch panel.									
	Automatic communication settings	The 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[*6]									
Touch key resolution		Free layout (8 dots min.)									
Touch key operation force		0.8N max.									
Touch key life		Min. 1 million operations									
COM port	Interface	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485
	External communication settings	Baud rate: 9,600/19,200/38,400/57,600/115,200bit/s; data length: 7 or 8 bits, parity: none, odd, even, stop bits: 1 bit									
	Protocol	Panasonic FP series/serial port (program controlled communication)/other manufacturers' PLCs (refer to the compatible PLC list for manufacturers and models)									
	Connector	Connector terminal base (8 pins) (part no. AIGT084)									
Screen data transfer interface	Interface	TOOL port (RS232C)									
	PC baud rate setting	9,600/19,200/115,200		—				9,600/19,200/115,200			
	Protocol	Panasonic MEWTOCOL									
	Connector	USB Mini B		USB type B				USB Mini B		5-pin mini-DIN	
	Ethernet port[*7]	—									
User's memory		F-ROM									
Memory capacity		2,048kB		12,288kB				2,048kB		6.5MB	
Memory		—		SRAM							
Memory backup		—		Lithium battery (replaceable) AFPX-BATT (does not come with product)				Lithium battery (exchangeable) CR2032, commercial (does not come with product)			

		GT32M-E GT03M-E		GT32T-E GT03T-E		GT32M		GT32T0		GT32T1	
		RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485
Rated voltage		24V DC									
Operating voltage range		21.6 to 26.4V DC									
Current consumption		4.8W max. (GT32M-E) 1.9W max. (GT03M-E)		7.2W max. (GT32T-E) 3.1W max (GT03T-E)		10W max.				12W max.	
Power supply unit isolation method		Transformer isolation									
Ambient temperature		-20 to 60°C*2				0 to 50°C*3					
Ambient humidity		10 to 90% RH (no condensation at 25°C)				10 to 85% RH (no condensation at 25°C)					
Storage temperature		-20 to 60°C									
Storage humidity		10 to 90% RH (no condensation at 25°C)				20 to 85% RH (no condensation at 25°C)					
Vibration resistance		5 to 8.4Hz, amplitude: 3.5mm; 8.4 to 150Hz, acceleration 9.8m/s², 10 times in each of the X, Y and Z directions (1 octave/min)				10 to 55Hz (1-minute cycle); double amplitude: 0.75mm, 10 minutes in each of the X, Y, and Z directions					
Shock resistance		147m/s² min: 3 times in each of the X, Y, and Z directions				98m/s² min: 4 times in each of the X, Y, and Z directions					
Noise resistance		—				1,000V [P-P] min., pulse width of 50ns, 1 ms between power supply terminals (by a noise simulator)					
Protection class		IP67 (in the initial stages)*4				IP65 (in the initial stages)*4					
Weight		Approx. 470g (GT32) Approx. 170g (GT03)				Approx. 500g		Approx. 470g		Approx. 480g	
Functions	Font types	Scalable GT and Windows fonts									
	Languages	English, German, French, Spanish, Italian, Turkish, Japanese, Korean, Traditional Chinese, Simplified Chinese									
	Graphics	Straight lines, continuous straight lines, squares, circles, ovals, arcs, elliptic arcs, fan shapes, elliptic fan shapes, beveled squares, bitmaps									
	Number of screens*5	Approx. 180				Approx. 240		Approx. 180			
	Screen No.	Base screens: No. 0 to 3FF, keyboard screens: No. 0 to 7									
	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, language switching, security levels, data logging, SD card recipe (GT32T1 with sound output)									
	Clock/calendar function	Provided with a built-in clock function (can also refer to and display a PLC clock). Use a commercially available battery.									
	Contrast adjustment	Contrast can be adjusted by using the touch panel						Not adjustable			
	Automatic communication settings	The 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*6									
Touch key resolution		Free layout (8 dots min.)									
Touch key operation force		0.8N max.									
Touch key life		Min. 1 million operations (at 25°C)									
COM port	Interface	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485	RS232C	RS422/RS485
	External communication settings	Baud rate: 9,600/19,200/38,400/57,600/115,200bit/s; data length: 7 or 8 bits, parity: none, odd, even, stop bits: 1 bit									
	Protocol	Panasonic FP series/serial port (program controlled communication)/other manufacturers' PLCs (refer to the compatible PLC list for manufacturers and models)									
	Connector	Connector terminal base (8 pins) (part no. AIGT084)									
Screen data transfer interface	Interface	USB1.1									
	PC baud rate settings	—									
	Protocol	Panasonic MEWTOCOL									
	Connector	USB TYPE-B									
	Ethernet port*7	—								Yes (100BASE-TX, 10BASE-T)*7	
User's memory		F-ROM									
Memory capacity		12MB				2MB		12MB (ver1.10 or later)			
Memory		SRAM									
Memory backup		Lithium battery (exchangeable) AFPX-BATT (does not come with product)									

Notes:
*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, the usable range is -20 to 55°C.
*3. When the unit is being installed in a horizontal orientation, the usable range is 0 to 40°C.
*4. The protection class applies to the front panel. When reattaching the panel, replace the waterproof packing.
*5. The number of screens that can be registered varies according to the registered contents.
*6. Not compatible with 64bit versions of Windows®.
*7. Simultaneous USB and Ethernet communications are not possible.

GT series

Part numbers: Main unit and tool software

Product	Description				Part number	SD memory slot
	LCD	Power supply	Communication port	Color		
GT02M Main unit	STN monochrome (white/red/pink backlight)	5V DC	RS232C	Black	AIG05MQ02D	
				Ash gray	AIG02MQ03D	
			RS422 (RS485)	Black	AIG02MQ04D	
				Ash gray	AIG02MQ05D	
		24V DC	RS232C	Black	AIG02MQ12D	
				Ash gray	AIG02MQ13D	
			RS422 (RS485)	Black	AIG02MQ14D	
				Ash gray	AIG02MQ15D	
			RS232C	Black	AIG02MQ22D	✓
				Ash gray	AIG02MQ23D	✓
			RS422 (RS485)	Black	AIG02MQ24D	✓
				Ash gray	AIG02MQ25D	✓
GT02G Main unit	STN monochrome (green/orange/red backlight)	5V DC	RS232C	Black	AIG02GQ02D	
				Ash gray	AIG02GQ03D	
			RS422 (RS485)	Black	AIG02GQ04D	
				Ash gray	AIG02GQ05D	
		24V DC	RS232C	Black	AIG02GQ12D	
			RS422 (RS485)	Black	AIG02GQ14D	
			RS232C	Black	AIG02GQ22D	✓
				Ash gray	AIG02GQ23D	✓
			RS422 (RS485)	Black	AIG02GQ24D	✓
				Ash gray	AIG02GQ25D	✓
GT21C Main unit	STN color	24V DC	RS232C	Black	AIGT2230B	
				Ash gray	AIGT2230H	
			RS422 (RS485)	Black	AIGT22332B	
				Ash gray	AIGT2232H	
GT12G Main unit	STN monochrome (green/orange/red backlight)	24V DC	RS232C	Pure black	AIG12GQ12D	✓
				Hairline silver	AIG12GQ13D	✓
			RS422 (RS485)	Pure black	AIG12GQ14D	✓
				Hairline silver	AIG12GQ15D	✓
GT12M Main unit	STN monochrome (white/red/pink backlight)	24V DC	RS232C	Pure black	AIG12MQ12D	✓
				Hairline silver	AIG12MQ13D	✓
			RS422 (RS485)	Pure black	AIG12MQ14D	✓
				Hairline silver	AIG12MQ15D	✓
GT05M Main unit	STN monochrome (white/red/pink backlight)	24V DC	RS232C	Pure black	AIG05MQ02D	✓
				Hairline silver	AIG05MQ03D	✓
			RS422 (RS485)	Pure black	AIG05MQ04D	✓
				Hairline silver	AIG05MQ05D	✓
GT05G Main unit	STN monochrome (green/orange/red backlight)	24V DC	RS232C	Pure black	AIG05GQ02D	✓
				Hairline silver	AIG05GQ03D	✓
			RS422 (RS485)	Pure black	AIG05GQ04D	✓
				Hairline silver	AIG05GQ05D	✓
GT05S Main unit	TFT color	24V DC	RS232C	Pure black	AIG05SQ02D	✓
				Hairline silver	AIG05SQ03D	✓
			RS422 (RS485)	Pure black	AIG05SQ04D	✓
				Hairline silver	AIG05SQ05D	✓
GT32M Main unit	STN monochrome	24V DC	RS232C	Pure black	AIG32MQ02D	✓
				Hairline silver	AIG32MQ03D	✓
			RS422 (RS485)	Pure black	AIG32MQ04D	✓
				Hairline silver	AIG32MQ05D	✓
GT32T0 Main unit	TFT color	24V DC	RS232C	Pure black	AIG32TQ02D	✓
				Hairline silver	AIG32TQ03D	✓
			RS422 (RS485)	Pure black	AIG32TQ04D	✓
				Hairline silver	AIG32TQ05D	✓

GT series

| Product		Description				Part number	SD memory slot
		LCD	Power supply	Communication port	Color		
GT32T1 Main unit		TFT color	24V DC	RS232C	Black	AIG32TQ12D	✓
					Hairline silver	AIG32TQ13D	✓
				RS422 (RS485)	Black	AIG32TQ14D	✓
					Hairline silver	AIG32TQ15D	✓
GT32T-E Main unit		TFT color	24V DC	RS232C	Ash gray	AIG32TQ03DE	✓
				RS422 (RS485)		AIG32TQ05DE	✓
GT32M-E Main unit		TFT monochrome		RS232C		AIG32MQ03DE	✓
				RS422 (RS485)		AIG32MQ05DE	✓
GT03T-E Main unit		TFT color	24V DC	RS232C	Ash gray	AIG03TQ03DE	✓
				RS422 (RS485)		AIG03TQ05DE	✓
GT03M-E Main unit		TFT monochrome		RS232C		AIG03MQ03DE	✓
				RS422 (RS485)		AIG03MQ05DE	✓
Terminal GTWIN Ver. 2 Tool kit		English version	GTWIN CD-ROM, GT series technical manual (English version)			AIGT8001V2	
Terminal GTWIN Upgrade		English version	Upgrades Terminal GTWIN Ver. 1 to Ver. 2			AIGT8001V2R	

Part numbers: PLC connection cables

Programmable display	Connection cable	PLC
GT series (RS422/RS485)	Part no.: **AIGT81S2D,** PLC connection cable (2m), 9-pin Sub-D female — 2 single wires + shielding wire	Siemens S7-200 series
GT series (24V DC, RS232C)	Part no.: **AIGT8192,** PLC connection cable (2m) (5-pin mini-DIN connector — 3 singles wires), **AIGT8193** (3m) , **AIGT8194** (4m) and **AIGT8195** (5m) are also available.	Panasonic Electric Works FP series
GT series (24V DC, RS422/RS485)	Part no.: **AIGT8175,** PLC connection cable (5m), 8-pin mini-DIN connector — 4 single wires + shielding wire	Mitsubishi Electric FX series
GT series (24V DC, RS232C)	Part no.: **AIP81842,** PLC connection cable (2m), 9-pin Sub-D female — 3 single wires	Panasonic Electric Works FP2SH COM port

Options

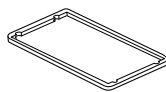### Panel face protection sheets
10 sheets in a set (option)

GT02	Part no.:	**AIF02800**
GT05	Part no.:	**AIG0T5800**
GT12	Part no.:	**AIG12800**
GT21	Part no.:	**AIGT28021**
GT32	Part no.:	**AIG32800**
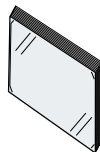
Waterproof packing
Waterproof packing (for replacement), 10 pieces in a set.
Package includes one set.

GT02	Part no.:	**AIF02810**
GT03-E	Part No.	**AIG03810E**
GT05	Part no.:	**AIGT05810**
GT12	Part no.:	**AIG12810**
GT21	Part no.:	**AIGT28121**
GT32	Part no.:	**AIG32810**
GT32-E	Part no.	**AIG32810E**

GT03/GT05/GT12/GT21/GT32 mounting parts
5 sets of mounting parts (2 parts/set) Package includes one set.

GT03-E	Part No.	**AIG12830**
GT05/GT21	Part no.:	**AIGT28321**
GT12/GT02	Part no.:	**AIG12830**
GT32/GT32-E	Part no.:	**AIGT32830**

GT05/GT12/GT32 backup battery
* For GT21C, please purchase a commercially
  available CR2032 battery.

Screen data transmission cable

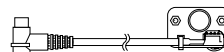9-pin Sub-D connector — 5-pin mini-DIN connector (L type: 3m)
Part no.: **AFC8513**

USB A to B cable for GT05 and GT32
Part no.: **AFPXCABUSB2**

Mini-USB cable for GT12
Part no.: **CABMINIUSB5**

TOOL port panel extension cable

SD card (GT05/GT12/GT32)

4GB SDHC card class 2
Part no.: **RP-SDR04GE1A**

Part no.:
AFC8532

Software

GTWIN

GT series screen creation tool

GTWIN is a screen creation software designed for the GT series. You can design screens and download them to a GT touch panel, upload data from a GT panel or print. You can compose messages and graphics. GTWIN comes with a host of pre-defined parts that make it easy for you to design screens quickly and easily, e.g. switches, lamps, clocks, keyboards, etc. Just drag and drop them onto your screen.

Multilingual menu screen

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

Simply drag-and-drop parts

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

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

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

Firmware upgrading function

Automatically upgrade older firmware versions if desired.

Windows2000/XP/Vista/Vista 64-bit/Win 7 and Win 7 64-bit support this system, Windows 95/ 98/Me/NT do not.

Updates

Please visit our website under www.panasonic-electric-works.com for the latest firmware and GTWIN version.

Versatile assistant: SD memory cards

Data logging on an SD memory card

The programmable displays GT02, GT05, GT12 and GT32 support data logging of process data on commercial SD cards. The log files can hold up to 60,000 records and are saved in CSV format. Data logging is hence possible without requiring extra software.

Display SD logging data graphically

Data logged on the SD card can be displayed graphically.
You can choose among the following time frames for display:
- 1 year (month unit)
- 1 month (day unit)
- 1 day (hour unit)
- Number of plots: The display begins with the first value of the hour specified

Day
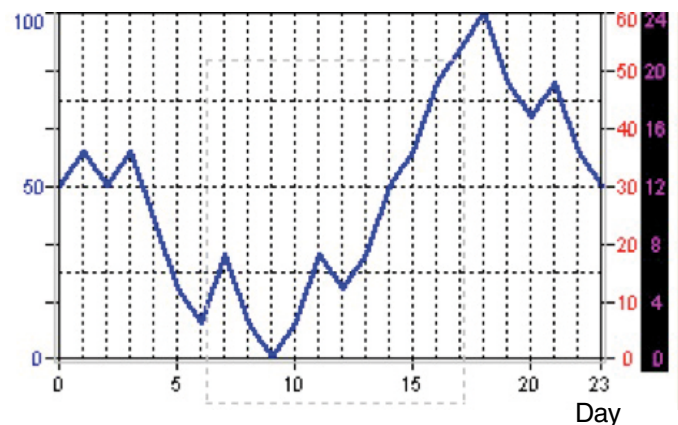
Store recipes on the SD memory card

Within the SD recipe area on the SD card, 100 recipe folders can be created. Each recipe folder can hold up to 64 recipe files. Each recipe file can contain a data set of up to 4096 ingredients (device values). GT02, GT05, GT12 and GT32 support this function.

SD memory card as program memory card

You can save PLC programs on an SD memory card. Using the GT system menu, you can choose in which direction to copy the program. The data type compilation (*.FP) and the source file (*.PCD) are supported. GT02, GT05, GT12 and GT32 support this function.

Save alarms on the SD memory card

The GT panel's alarm list can be saved as a CSV file on the SD card. GT02, GT05, GT12 and GT32 support this function.

GN series

RS232 **RS485**	1 x RS232C, 1x RS422/RS485 (optional)
TFT	TFT display, 256k colors
	2 x LAN 10/100/1000 Base-T
CF	CF card slot
	2 x USB rear, 1 x USB front (except GN07)
WIN CE	Microsoft Windows CE 6.0

Product lineup

	GN07	GN10	GN12	GN15
Display size (W x H in mm)	7" 152.4 x 91.44	10.4" 211.2 x 158.4	12.1" 246.0 x 184.5	15" 304.1 x 228.1
Display mode	TFT, 256k color			TFT 16.2M color
Brightness	330 cd/m²	230 cd/m²	400 cd/m²	350 cd/m²
Resolution (W x H)	800 x 480 dots	800 x 600 dots		1024 x 768 dots
Processor	Intel® Atom™ N270 1.6 GHz			
RAM	512 MB			
User memory	1GB (Win CE)			
RS232C	✓	✓	✓	✓
RS485 (422)	Optional			
LAN	2 x 10/100/1000 Base-T			
USB	2 x rear, -	2 x rear, 1 x front	2 x rear, 1 x front	2 x rear, 1 x front

GN series

Features

Extreme vividness

Embedded in an elegant black frame, the TFT screens offer a brilliant, vivid and life-like display in 262,144 colors (GN15: 16.2M). The GN series boasts an IP65 degree of protection from the front, and its screen responds flawlessly to the touch.

With a resolution of up to 1024x768 pixels and a brightness of 400cd/m² (max.), you will never be left in the dark.

Alarm management

The powerful alarm management guarantees maximum precision in managing events. Alarm management supports the 4 standard operating states (ON, OFF, ACK, RST) according to the ISA S-18 standard, but they can be easily changed individually according to your needs (events, colors, representations) and give custom help and be set by defined conditions.

Installed Movicon™ CE Runtime

Panels are ready to use with a preinstalled and activated Runtime.

Data logging and recipe

By using the same recording techniques, recipes and data loggers are stored in text files (.dat, .xml or encrypted files) with IMDB technology (InMemory DB). By using objects and wizards, the handling of recipe objects is much easier than with traditional methods.

Broad spectrum of applications

The GN series lends itself to a broad spectrum of applications. In addition to the basic features for recipe management, alarm management and multi-language, the GN series also provides all necessary hardware to support logging data.

If your application requires an HMI between 7" and 15", Panasonic's GN series is the right answer.

Myriad communication interfaces

The GN series was designed to leave no wish unfulfilled. In addition to the wide range of standard interfaces, optional networking interfaces are available.

Standard interfaces:
1 x RS232C
2 x USB rear, 1 x USB front (except GN07)
2 x LAN 10/100/1000 Base-T

Optional interfaces:
1 x RS485/RS422
Fieldbus interfaces
(PROFIBUS)

As Ethernet becomes more and more popular in factory automation worldwide, the GN series comes equipped with 2 Ethernet ports, allowing you to take advantage of the IT world.

• Use existing networks, save wiring
• Reach almost every point of the world via Internet
• Standard software tools already existing on your PC
• Remote control, monitoring and programming

TCP/IP
Ethernet

RS232C/
RS422

RS232C/
RS422

GN series

GN07

in mm
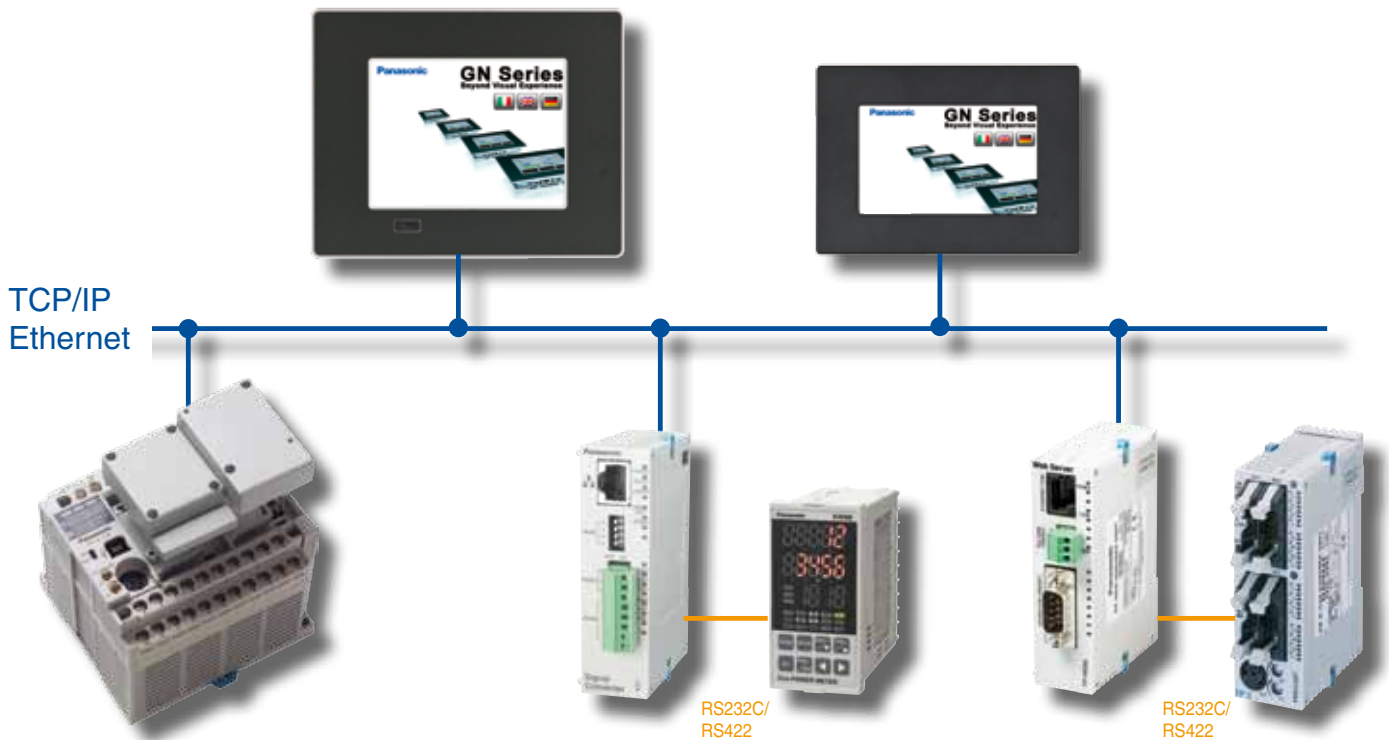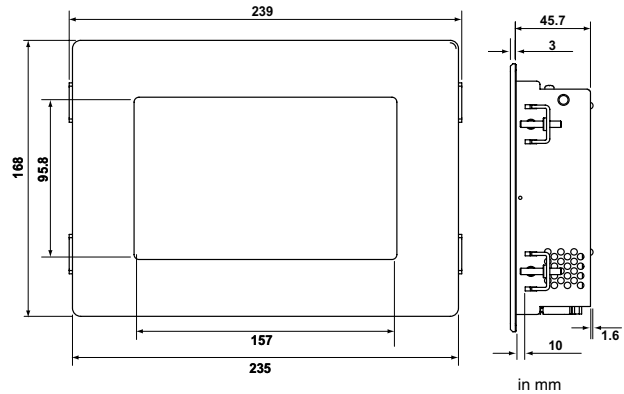
Compact and powerful

The GN series is available in 4 sizes, from 7" to 15". The smallest member of this series is the GN07. Due to its compact size, this panel can be used in places where little space is available but where emphasis is nevertheless placed on performance.

Regarding performance capability, the GN07 boasts the same works as its big brothers and can do everything they can.

• 7.0" TFT display
• 256k colors
• Resolution: 800 x 480 dots
• Installed Movicon™ CE Runtime

For tight fits

Sometimes there's simply not enough space for a large HMI. There can be many reasons for this. Nevertheless, the application may require a powerful and flexible HMI. With the same inner works as the other models in the GN series, the GN07 is the perfect solution for such cases.

Its many interfaces provide for flexibility, all included in a compact housing that allow it to score under such circumstances.

GN10

in mm
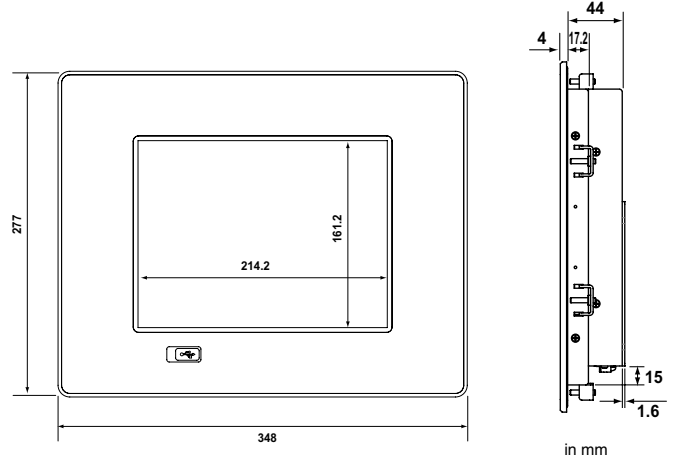
Open and flexible

Just like all other GN series touch panels, the GN10 is equipped with numerous interfaces. GN10 also provides a number of configurations and can accommodate a broad spectrum of application areas. Devices can be adapted to individual needs, if need be by request, from being equipped with serial interfaces to having a selection of fieldbus networks.

• 10.4'' TFT display
• 256k colors
• Resolution: 800 x 600 dots
• Installed Movicon™ CE Runtime

Application example: telecontrol and remote maintenance

Data transmission in both the command and reporting directions plays a central role in making the right decisions when certain events occur, for example in water treatment applications.
In the event of a failure, the pass-through mode not only allows HMI data to be analyzed but can also simultaneously activate the diagnostic mode on the PLC, for example, without requiring the outstation to be directly connected to the PLC.

MEWTOCOL   MEWTOCOL

Panasonic FP series   FP Modem
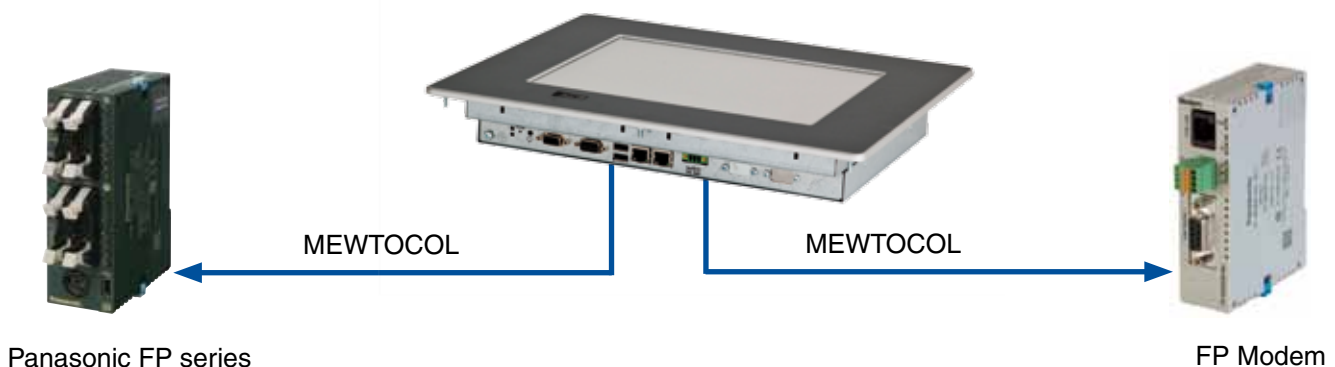
GN series

GN12

Data logging and alarm management

As with all other GN series touch panels, the GN12 offers a CF card slot. History data can be stored on the CF card. Data is registered and recipes are archived as text files using "IMDB" technology, or in relational databases.

- 12.1" TFT display
- 256k colors
- Resolution: 800 x 600 dots
- Installed Movicon™ CE Runtime

Application example: gateway

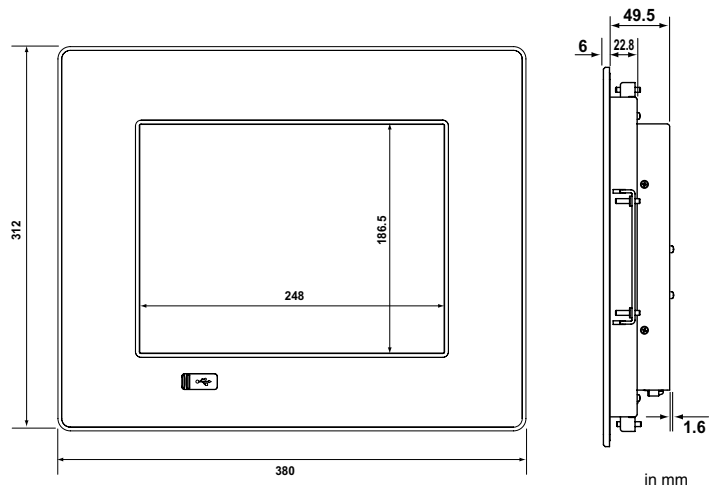Depending on the application area and requirements, very different communication protocols are used in machines and industrial systems. When systems or machines are expanded, problems can quickly arise. The GN series touch panels not only provide a powerful HMI, they also provide a gateway that allows networks to communicate with each other. Communicate without hurdles.

Panasonic FP series   MEWTOCOL*   Modbus TCP*   ACME PLC (any PLC)

*example

GN15

in mm
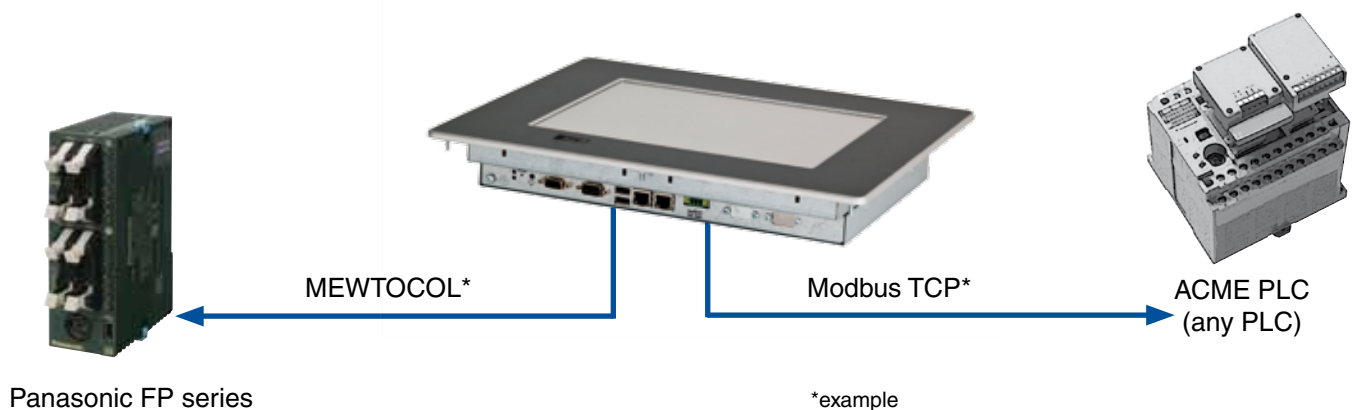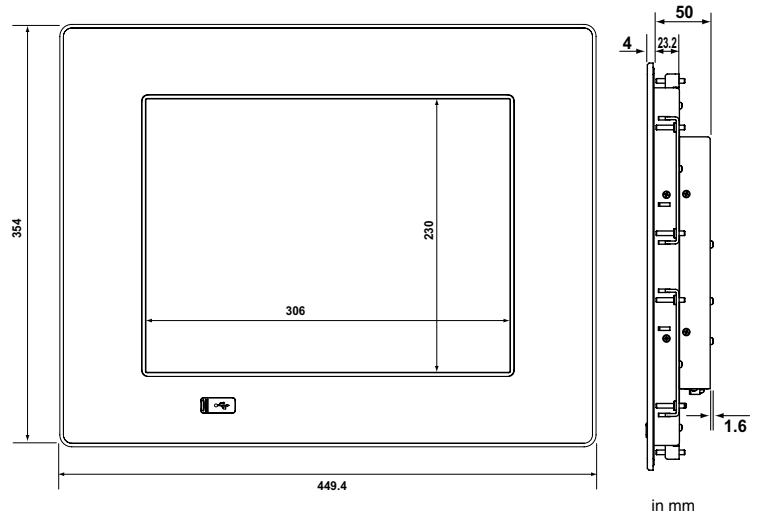
When size matters

Our largest model, the GN15, is the perfect choice when a lot of information requires a superior display. 16.2 million colors and a brightness of 350 cd/m² make for a convincing display. Should questions arise while using the panel, the integrated viewer can call up the corresponding help files.

1024 security levels and 16 entry areas make sure information is only available to those for whom it is intended.

- 15.0" TFT display
- 16.2M color
- Resolution: 1024 x 768 dots
- Installed Movicon™ CE Runtime

Visualizing vast amounts of data

Precise data collection as well as an exact and clear display are indispensable in order to react quickly to changes in an application. With the largest HMI of the GN series, you can arrange numerous screens and large amounts of data clearly and in a structured manner.

You can also integrate external programs into the visualization by using the interfaces available.

GN series

Specifications/dimensions

GN series		GN07	GN10	GN12	GN15
TFT LCD display	Screen size Active area (W x H) [mm]	7" 152.4 x 91.44	10.4" 211.2 x 158.4	12.1" 246.0 x 184.5	15" 304.1 x 228.1
	Number of dots (W x H) [pixel]	800 x 480	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)
	Pixel pitch (W x H) [mm]	0.1905 x 0.1905	0.264 x 0.264	0.3075 x 0.3075	0.297 x 0.297
	Color depth	256k			16.2M
	Backlight	LED	1 x CCFL	2 x CCFL	
	Brightness cd/m^2	330	230	400	350
	Control signal	1x 6-bit LVDS			
	Viewing angle (°) (r / l / u / d)	60 / 60 / 40 / 55	70 / 70 / 55 / 65	70 / 70 / 50 / 60	70 /70 / 65 /60
	Contrast ratio	400:1	500:1	500:1	700:1
Touch screen		4-wire resistive analog			
Processor		Intel® Atom™ processor N270 1.6GHz			
Battery		Lithium battery 3.0V for real-time clock. Type CR2032, UL-listed			
Rated voltage		12VDC (GN07/GN10/GN12: 2.8A/GN15: 3.5A)			
USB 2.0 interface		2 x	3 x		
Ethernet interface (10/100/1000Mbit/s) (LAN0, LAN1)		2 x			
VGA interface		1 x			
Serial RS232 interface (COM1)		1 x			
Protection class		IP65 (front side)			
Optional interfaces		• Serial RS422/RS485 • Industrial fieldbus			
Power LED (PWR)		Yes			
Reset button (RESET)		Yes			
CF card slot		1 x			
Storage media		CF card			
Operating system		Standard: Windows CE 6.0 (other operating systems available upon request)			
DC power plug (3 pin)		1 x			
Mounting clamps		4 x (1 screw)	8 x (1 screw)	6 x (2 screws)	8 x (2 screws)

Part numbers

Product		Operating system	Visualization runtime	Serial port	Part number
	GN07 series	WIN CE 6.0	Movicon CE	RS232C	AIGN07M232
				RS485	AIGN07M485
	GN10 series	WIN CE 6.0	Movicon CE	RS232C	AIGN10M232
				RS485	AIGN10M485
		WES7	-	RS232C	AIGN10W232T02
	GN12 series	WIN CE 6.0	Movicon CE	RS232C	AIGN12M232
				RS485	AIGN12M485
		WES7	-	RS232C	AIGN12W232T02
	GN15 series	WIN CE 6.0	Movicon CE	RS232C	AIGN15M232
				RS485	AIGN15M485
		WES7	-	RS232C	AIGN15W232T02
	Movicon Development tool	—	—	—	AIGNDEVPRG

* Min. order 10 pieces

Communication cable

GN series COM1-> FP series TOOL port (3m)
Part no.: **AFC8513**
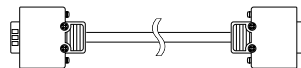
GN series   Panasonic FP series

GN series COM1 -> FP2SH COM (2m)
Part no.: **AIP81862E1D**

GN series   Panasonic FP2SH/MCU RS232C

GN series COM1 (RS232C) -> loose wire (2.90m)
Part no.: **AIGNCAB232**

any PLC   2900   GN series

Software

Movicon

Panasonic Movicon

Panasonic provides the most powerful HMI platform for Windows® CE today: Movicon™ 11. Comprehensive projects, wholly capable of satisfying your every need in visualization and control in a compact environment without foregoing the potential of the SCADA system can be created with the development tool. Our GN series offers the complete flexibility by using Movicon™ C runtime:

- Alarm management
- Multiple drivers
- Integrated VBA logic
- Built-in Web client
- Security concept
- Data loggers and recipes on database
- Extensive graphic library

Movicon™ 11: strong points

- Openness: Movicon™11 is completely based on XML. Projects are simple XML files, which can be opened and edited with any XML editor. Fully open to integration and customization in the world of Windows® applications.

- Security: Movicon™11 guarantees top data security. Projects, though based on XML, can be encrypted with 128 bit algorithms. The User Password Manager guarantees safe access by level and/or area.

- Standards: Movicon™11 is completely based on standard technologies to ensure that your investments are safe. The XML, VBA, Web Services, TCP-IP and SQL technologies are all integrated to guarantee easy data access and transparency.

- Performances: Movicon™11 enhances performance by renewing its "exception-based" technology concept and graphics engine based on SVG (Scalable Vectorial Graphics).

- Connectivity: Movicon™11 has implemented a new generation of communication drivers to maximize flexibility in communication.

- Web-enabled architecture: Movicon™11 has renewed Web client technology. The innovative architecture, based on JAVA (integrating perfectly with XML, SVG, Web Services technologies), enables server access using Internet browsers on any platform (Windows®, Linux, Palm, PocketPC and Javaphones thanks to J2ME). Multiuser, performance and security are guaranteed keeping costs and maintenance to a minimum. Servers can be both Windows® Vista/XP and Windows® CE.

Movicon™ 11 intelligent editor

- Combining power with simplicity is not an easy thing to do. Often systems easy to use are restricted in what they can do. On the other hand, those which are very powerful tend to be too complex to use. This is where Movicon™ steps in. Movicon™ has been designed intelligently to fit all user needs to be more productive in less time and with less effort.

- Configurable workspace, floating or conventional windows, shortcut commands and quick-to-configure pop-up windows.

- Auto-create projects using wizards with project templates.

- Symbol and template libraries. Power Templates™ technology for managing complex object libraries with integrated VBA code. Template management also provided for alarms, data loggers, events and schedulers.

- Powerful on-line debugger with functions to analyze and simulate projects.

TB-SYMKEYS 2

User library with flow diagram symbols and switch elements for GT and GN touch terminals

The library TB-SYMKEYS 2.2 for programmable displays of the GT and GN series helps you to efficiently create HMI applications with flow charts, e.g. for water management applications. This product contains a floating icon library and four key libraries which can be integrated into GTWIN. For the GN series, this product contains sample projects for Movicon with all symbols. Each symbol functions as a button that can open a new page, switch equipment directly, or just call up info. The functionality is supported by a comprehensive PLC program that animates the flow chart objects. These libraries can be used by the monochrome or color touch panels by all GN series and GT series panels.

GTWIN screen shots of GTWIN and Movicon:
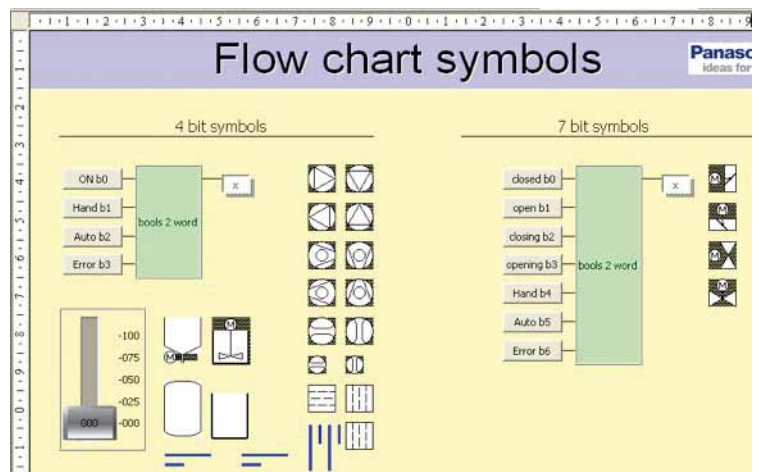
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