

# Operator Interface

## HG4G/3G/2G



Bright and true-to-life  
color displays



**HG4G** 12.1  
inch



**HG3G** 10.4  
inch



**HG3G** 8.4  
inch



**HG2G** 5.7  
inch  
(High Performance)



**HG2G** 5.7  
inch  
(Basic)

NEW





<https://hoplongtech.com>



Vertical  
OK

**HG4G**  
12.1 inch





# Connect & Communicate

## “Human Machine Interface (HMI) Solutions”

IDEC principle for human-machine interfaces: Fast, easy, and simple.

The sharp and vivid display with high luminance connects to PLCs, micro computer boards, temperature controllers and cameras, ensuring excellent connectivity and communication in a wide range of industries.

Our new range of operator interfaces provide the optimum environment for your application.



# Designed to perform

## LED

Backlight

True-to-life color. Brightest in its class.



**HG4G**  
(12.1 inch)  
**550** cd/m<sup>2</sup>

**HG3G**  
(10.4 inch)  
**700** cd/m<sup>2</sup>  
(8.4 inch)  
**600** cd/m<sup>2</sup>

**HG2G**  
(5.7 inch)  
(High Performance)  
**800** cd/m<sup>2</sup>

**HG2G**  
(5.7 inch)  
(Basic / Color)  
**500** cd/m<sup>2</sup>  
(Basic / Monochrome)  
**1100** cd/m<sup>2</sup>

A bright LED backlight provides a vivid display in well-lit surroundings. The brightness of the backlight can be adjusted.

**48-level**  
Brightness  
Adjustment **LED backlight**  
dimming control

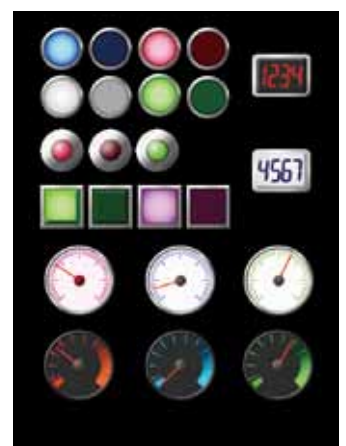
The brightness of the backlight can be adjusted according to surrounding conditions (day/night).



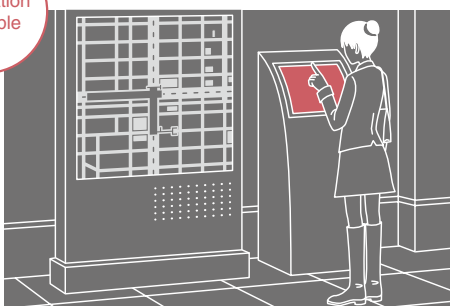
Graphics

More than 7,000  
graphic images

1,000 graphic images have been added. Realistic images of switches, pilot lights, and other parts allow you to easily create your own custom screens.



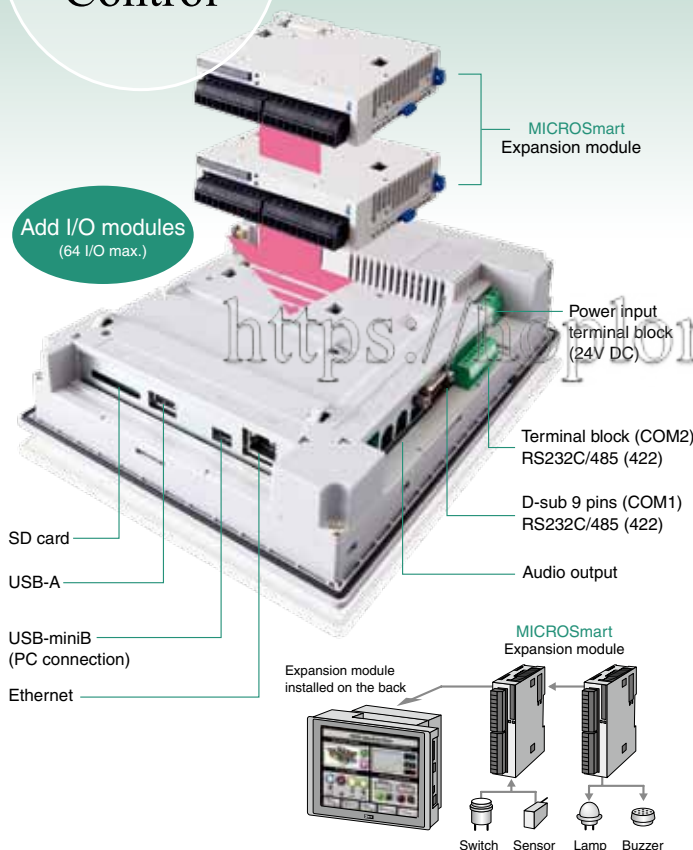
Application  
Example





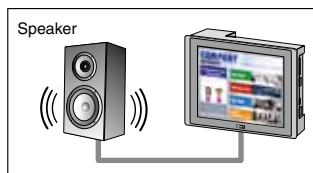
# Control

## Simple I/O Control



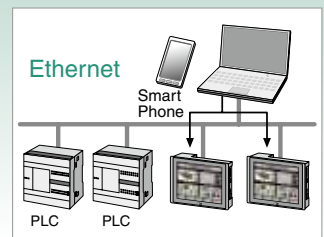
## Audio Output Sound file (30 sec max.)

Audio error messages can be sent to an operator, providing faster system recovery. Audio output can also be used as a voice guidance system.



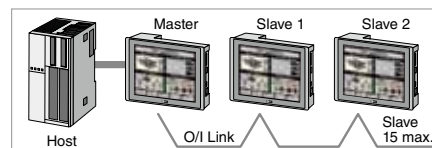
## Ethernet Remote data maintenance

Project data can be downloaded and uploaded remotely via Ethernet. One User can check and operate screens using a PC or smartphone in a remote location.



## O/I Link IDEC high-speed 115.2 kbps O/I Link communication

A maximum of 16 HGs can be connected to a PLC using RS485 (2-wire), easily creating a high-speed network reducing cost.



## I/O Module Display and I/O control in one package

A maximum of four MicroSmart expansion modules can be connected, allowing equipment control using a small number of I/O points. (Input, output, I/O modules can be used.)

\* HG4G/3G can connect up to 4, HG2G (high performance model only) can connect up to 2 expansion modules.  
\* For compatible expansion modules, see "Expansion Modules" on page 23.

## Cyclic Script Cyclic I/O control

Cyclic script enables parallel processing of I/O control. Real time I/O processing for high performance.

|                    |               |         |               |         |               |         |     |
|--------------------|---------------|---------|---------------|---------|---------------|---------|-----|
| Conventional model | Display       | I/O     | Display       | I/O     | Display       | I/O     |     |
| HG Series          | I/O           | Display | I/O           | Display | I/O           | Display | I/O |
|                    | 10 to 1000 ms |         | 10 to 1000 ms |         | 10 to 1000 ms |         |     |



# Fast & Easy

Stress-Free

3-sec startup



High Speed CPU

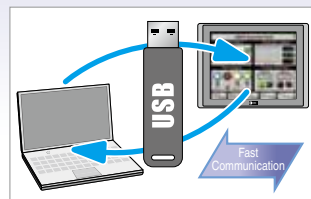
Fast start-up

High-speed 400 MHz CPU and unique software technology shorten startup time. Fast start-up allows for easy debugging.

High Speed Data

Fast USB2.0 communication

USB 2.0, high-speed 480 Mbps. Project data can be downloaded and uploaded easily using a PC and USB flash drive.



Easy Maintenance

Simple operation <https://hoplongtech.com>



SD Card

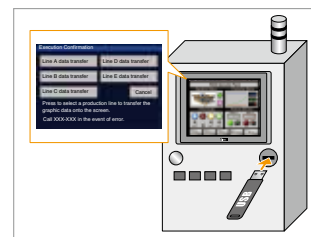
Convenient SD card slot

Data can be saved or transferred by using an SD card (32 GB max.) By saving user data on an SD card, user memory can be reduced.

USB Flash Drive

USB flash drive enables easy data transfer.

Inserting a USB flash drive into the HG will automatically bring up the USB transfer menu. Operator can work on errors without the use of a PC.

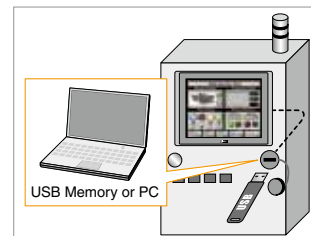


Front Panel Maintenance

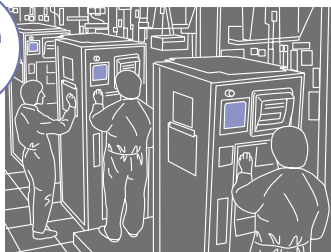
Easy data maintenance, without opening the control cabinet.

Using a USB panel-mount cable, data can be transferred without opening the panel. The pass-through function enables debugging of ladder programs in the PLC, connected to the HG, inside the cabinet.

\*See the users's manual for compatible PLCs.



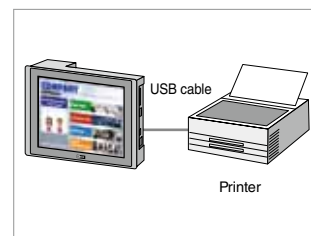
Application Example



Pict Bridge

USB printer compatible

HG screen information and alarm history can be printed out from Pict Bridge compatible printers.





Automation Organizer  
WindO/I-NV2Automation Organizer  
WindO/I-NV4

(HG2G basic model only)

# OI Touchscreen Programming Software

Flexible and easy to use workspace. Easy programming enables efficiency.

## Dynamic and flexible screen designs

The ribbon organizes commands in groups and tabs, making it possible to find commands easily and quickly.

## Graphic library with extensive collection of images

7000 graphic images can be selected from the library tool. Graphics that are used frequently as part images can be quickly selected from the parts list.

## Easy-to-view work space

Project structure can be listed for easy viewing, and switched to the editing screen in one click.

## Design screens using the object list

Device, operating conditions, and type of command can be read from the object list. During debugging, data stored in the device is shown in popups, and perating conditions can be distinguished via color.

## Easy programming

Operating conditions for buttons and lamps can be programmed in the property settings.

## Create language screens easily

Switch to any of the supported languages by using the text manager within the same project. Translation is easy as Unicode format files can be imported/exported.

## Tag editor shows available devices at a glance

Device addresses used in the project can be easily identified by using the tag editor and cross-references.

### System Requirements

- Windows 8 (32-bit/64-bit), Windows 7 (32-bit/64-bit), Windows Vista (32 bit/64 bit), Windows XP (32-bit, Service Pack 3 or later)  
(Ensure that your operating system has the latest update from the Microsoft Windows Update website)
- 1.0 GHz or faster CPU
- Microsoft.NET Framework 4.0

\*Windows is a registered trademark of Microsoft Corporation, USA and other countries.

\*WindO/I-NV2 and WindO/I-NV4 are included in IDEC's package software "Automation Organizer".

- WindO/I-NV4 can only be used on HG2G basic models.
- 512 MB RAM (1 GB recommended)
- 800 MB hard disk space
- Screen resolution of 1024 x 768 or more
- Mouse, DVD-ROM drive, administrator account



# Environment

Withstands  
Harsh  
Environments

## Excellent environmental resistance



Wide  
Temp.  
Range

Operates in a wide temperature range from  
-20 to +60°C\*

Suitable for use in a wide temperature range from cold to hot  
environment.  
(\*HG2G basic model only)

Long  
Life

Long-life LED back light

Long 100,000-hour service reduces maintenance work.

<https://hoplongtech.com>

Water  
proof

IP66 rating (protection against powerful jets) suitable  
for washdown applications

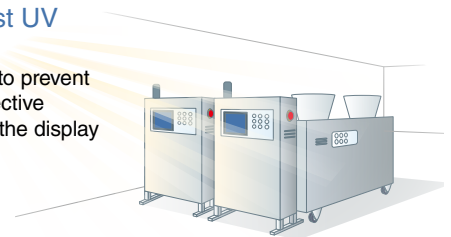
Touchscreens can be used on machines  
washed down by water such as food  
machines.



UV  
Resistant

Protected against UV

An UV resistant case is used to prevent  
degradation. An optional protective  
sheet can be used to prevent the display  
from becoming cloudy.



Oil  
Resistant

IP66f rating prevents ingress of oil.\*

Suitable for use on food machines subject to oil spills.  
(\*HG2G basic model only. Operation is not guaranteed when used with  
certain types of oils.)

Damage  
Resistant

Strong Coating

Strong coating protects the touchscreen from scratches.

Degree of  
Protection

I P 6 6 F  
① ② ③

① **[First characteristic numeral]** Degree of protection against excess to hazardous parts and  
protection against external solid objects.  
**6 Dust-tight**

② **[Second characteristic numeral]**  
Degree of protection against water penetration  
**5 Protected against water jets**  
**6 Protected against powerful water jets**  
Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.  
**7 Protected against the effects of temporary immersion in water** Ingress of  
water shall not be possible when the enclosure is immersed in water up to 1 m for 30 minutes.

③ **[Additional letter]**  
**F Oil resistant\***



# Multimedia

## Multimedia Functions

### Records and plays back high quality images

Multimedia models with video and audio input terminals.

The screen records images on an SD card through a connected video camera and images recorded on an SD card can be played back on the screen or PC.

\* HG4G-CJT22MF, HG3G-AJT22MF, HG3G-8JTMF models only.

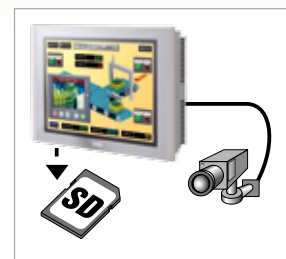
#### Display

Displays images on the screen from the camera.



#### Save Image

Records and plays back images on the screen from the camera and saves the data on the SD card.



#### Video Play

Replays video images and audio from an SD card.

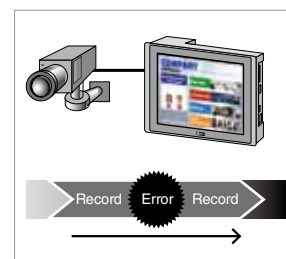
MPEG4 video files can be played back on the screen. Work procedures can be shown on the screen, and when trouble occurs, it can be used as a video manual for troubleshooting on-site.



#### Video Recording

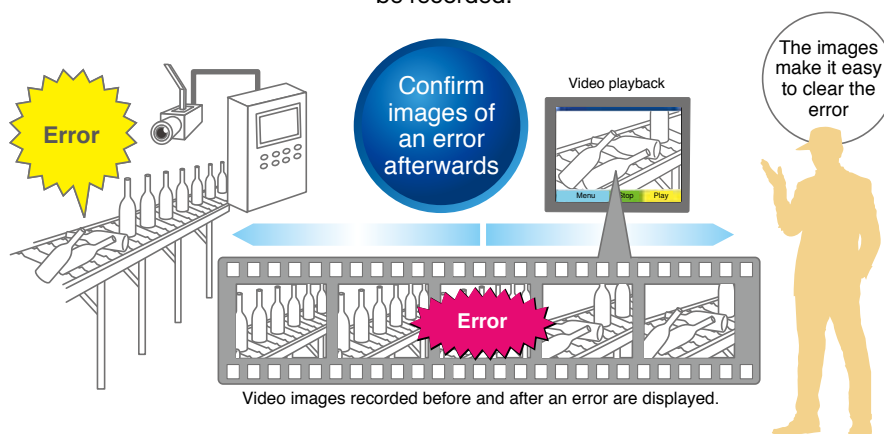
Records video images of an error

When an alarm is set off, video images before and after the start of the alarm can be recorded on an SD card. This enables on-site analysis of the trouble. Smooth and refined images can be recorded.



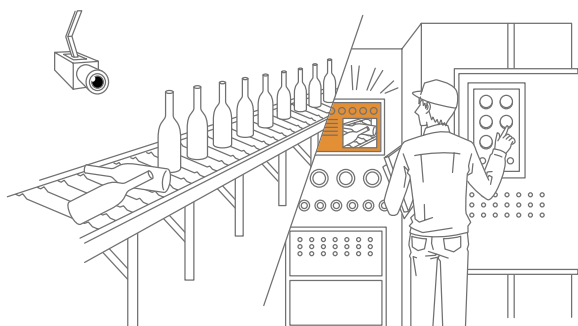
### Application Examples

Find out the cause of an error



# Human-machine interface expands IDEC

Easy troubleshooting using video images



Complicated maintenance can be carried out



## Lineup

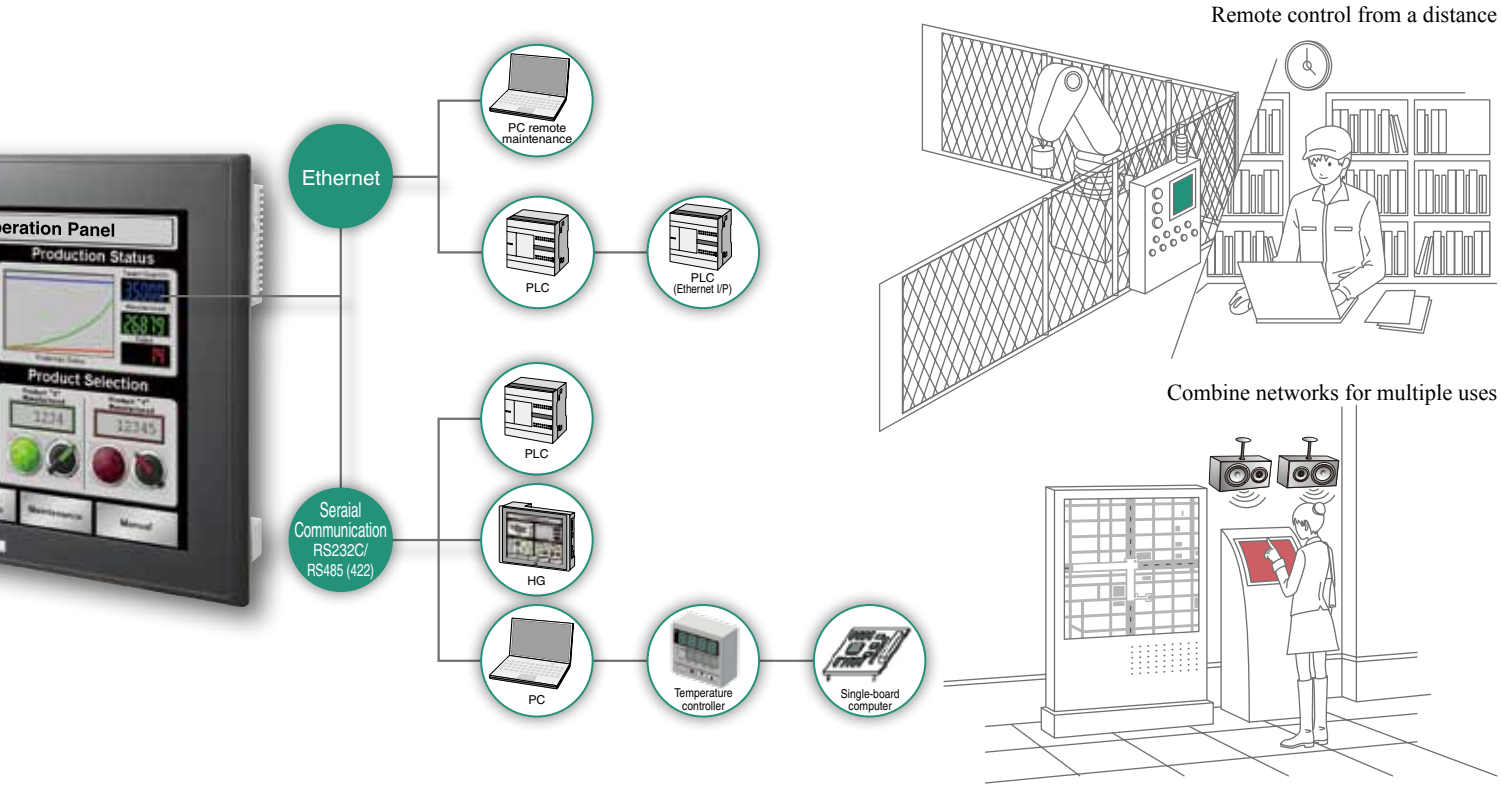
## HG series Operator Interface

### High Performance

| HG4G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HG3G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | HG2G-5F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.1 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10.4 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8.4 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.7 inch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 314 × 240 × 54.1 mm<br>SVGA (800 × 600)<br>TFT65,536 colors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 270 × 212 × 52.7 mm<br>SVGA (800 × 600)<br>TFT65,536 colors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 231 × 176 × 54.4 mm<br>SVGA (800 × 600)<br>TFT65,536 colors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 167.2 × 134.7 × 54.4 mm<br>VGA (640 × 480)<br>TFT65,536 colors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <div>Bright 550 cd/m<sup>2</sup></div> <div>LED 100,000 Hours</div> <div>48-level Brightness Adjustment</div> <div>Graphics</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>4 Expansion Modules</div> <div>Audio Output</div> <div>O/I Link</div> <div>Cyclic Script</div> <div>SD Card</div> <div>USB Flash Drive</div> <div>High Speed CPU</div> <div>High Speed Data</div> <div>User Memory 12MB</div> <div>Pict Bridge</div> <div>Front Panel Maintenance</div> <div>Audio Input</div> <div>Video Input</div> <div>Video Play</div> <div>Video Recording</div> <div>Voltage 24V DC</div> <div>Vertical OK</div> <div>Bezel Color</div> <div>Dark gray</div> | <div>Bright 700 cd/m<sup>2</sup></div> <div>LED 100,000 Hours</div> <div>48-level Brightness Adjustment</div> <div>Graphics</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>4 Expansion Modules</div> <div>Audio Output</div> <div>O/I Link</div> <div>Cyclic Script</div> <div>SD Card</div> <div>USB Flash Drive</div> <div>High Speed CPU</div> <div>High Speed Data</div> <div>User Memory 12MB</div> <div>Pict Bridge</div> <div>Front Panel Maintenance</div> <div>Audio Input</div> <div>Video Input</div> <div>Video Play</div> <div>Video Recording</div> <div>Voltage 24V DC</div> <div>Vertical OK</div> <div>Bezel Color</div> <div>Light gray</div> <div>Dark gray</div> | <div>Bright 600 cd/m<sup>2</sup></div> <div>LED 100,000 Hours</div> <div>48-level Brightness Adjustment</div> <div>Graphics</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>4 Expansion Modules</div> <div>Audio Output</div> <div>O/I Link</div> <div>Cyclic Script</div> <div>SD Card</div> <div>USB Flash Drive</div> <div>High Speed CPU</div> <div>High Speed Data</div> <div>User Memory 12MB</div> <div>Pict Bridge</div> <div>Front Panel Maintenance</div> <div>Audio Input</div> <div>Video Input</div> <div>Video Play</div> <div>Video Recording</div> <div>Voltage 24V DC</div> <div>Vertical OK</div> <div>Bezel Color</div> <div>Light gray</div> <div>Dark gray</div> <div>Silver</div> | <div>Bright 800 cd/m<sup>2</sup></div> <div>LED 100,000 Hours</div> <div>48-level Brightness Adjustment</div> <div>Graphics</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>2 Expansion Modules</div> <div>Audio Output</div> <div>O/I Link</div> <div>Cyclic Script</div> <div>SD Card</div> <div>USB Flash Drive</div> <div>High Speed CPU</div> <div>High Speed Data</div> <div>User Memory 12MB</div> <div>Pict Bridge</div> <div>Front Panel Maintenance</div> <div>Audio Input</div> <div>Video Input</div> <div>Video Play</div> <div>Video Recording</div> <div>Voltage 24V DC</div> <div>Vertical OK</div> <div>Bezel Color</div> <div>Light gray</div> <div>Dark gray</div> <div>Silver</div> |



# network control



| Basic                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compact                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HG2G-5TT</b><br>5.7 inch                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>HG2G-5TN</b><br>5.7 inch                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>HG1F</b><br>4.6 inch                                                                                                                                                                   |
| <b>NEW</b><br>167.2 × 134.7 × 40.9 mm<br>QVGA (320 × 240)<br>TFT 65,536 colors                                                                                                                                                                                                                                                                                                                                                                                         | <b>NEW</b><br>167.2 × 134.7 × 40.9 mm<br>QVGA (320 × 240)<br>TFT monochrome (16 shades)                                                                                                                                                                                                                                                                                                                                                             | 147 × 76 × 39.3 mm<br>(300 × 1000)<br>STN Monochrome (16 shades)                                                                                                                          |
| <div>Bright 500 cd/m²</div> <div>LED 100,000 Hours</div> <div>32-level Brightness Adjustment</div> <div>Graphics</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>USB Flash Drive</div> <div>User Memory 5MB</div> <div>Front Panel Maintenance</div> <div>Voltage 12/24V DC</div> <div>Temp. -20 to +60°C</div> <div>Vertical OK</div> <div>Bezel Color: Light gray, Dark gray, Silver</div> | <div>Bright 1100 cd/m²</div> <div>LED 100,000 Hours</div> <div>32-level Brightness Adjustment</div> <div>Stroke Fonts</div> <div>Serial Interface</div> <div>Ethernet</div> <div>USB mini-B</div> <div>USB A</div> <div>USB Flash Drive</div> <div>User Memory 5MB</div> <div>Front Panel Maintenance</div> <div>Voltage 12/24V DC</div> <div>Temp. -20 to +60°C</div> <div>Vertical OK</div> <div>Bezel Color: Light gray, Dark gray, Silver</div> | <div>Bright 500 cd/m²</div> <div>Serial Interface</div> <div>User Memory 1MB</div> <div>Voltage 24V DC</div> <div>Vertical OK</div> <div>Bezel Color: Light gray, Dark gray, Silver</div> |

\* See catalog no. EP1128 for details.

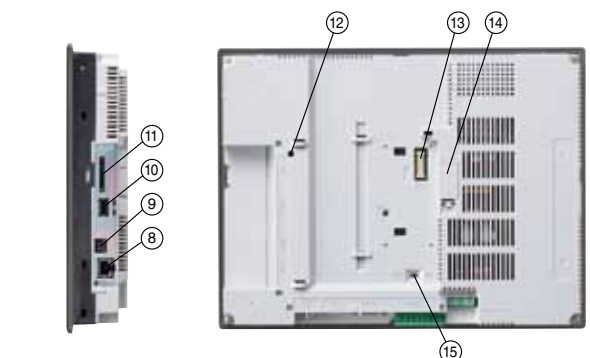
|                                                                                                                                            |                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sharp &amp; Vivid</b><br>Bright LED Brightness Adjustment Graphics Stroke Fonts >> Page 4                                               | <b>Simple Control</b><br>Serial Interface Ethernet USB mini-B USB A Expansion Module Audio Output O/I Link Cyclic Script >> Page 5 |
| <b>Fast &amp; Easy</b><br>SD Card USB Flash Drive High Speed CPU High Speed Data User Memory Pict Bridge Front Panel Maintenance >> Page 6 | <b>Environmental</b><br>Wide Temp. Range Long Life Water proof UV Resistant Oil Resistant Damage Resistant >> Page 8               |
| <b>OI Touchscreen Programming Software</b> >> Page 7                                                                                       | <b>Multimedia</b><br>Audio Input Video Input Video Play Video Recording >> Page 9                                                  |

# HG4G Operator Interface

12.1  
inch

Compact housing with a versatile interface.

High performance operator interface with multimedia functions.



| No. | Name                        |
|-----|-----------------------------|
| ①   | Power LED                   |
| ②   | Display                     |
| ③   | Touchscreen                 |
| ④   | Power Supply Terminal       |
| ⑤   | Serial Interface (COM2)     |
| ⑥   | Serial Interface (COM1)     |
| ⑦   | Audio Interface (AUDIO OUT) |
| ⑧   | Ethernet Interface (LAN)    |
| ⑨   | USB Interface (USB1)        |

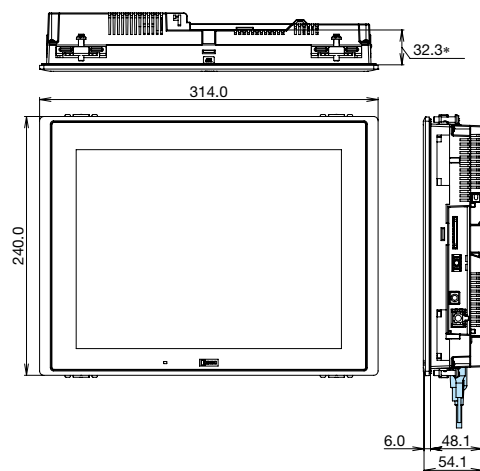
| No. | Name                             |
|-----|----------------------------------|
| ⑩   | USB Interface (USB2)             |
| ⑪   | Memory Card Interface (SD)       |
| ⑫   | SD Memory Access LED             |
| ⑬   | Expansion Module Interface (EXT) |
| ⑭   | Battery Cover                    |
| ⑮   | Terminal Resistor Switch         |
| ⑯   | Audio Interface (AUDIO IN)       |
| ⑰   | Video Interface (VIDEO IN)       |

UL LISTED (Approval for HG4G operator interface only, excluding options or expansion modules.)

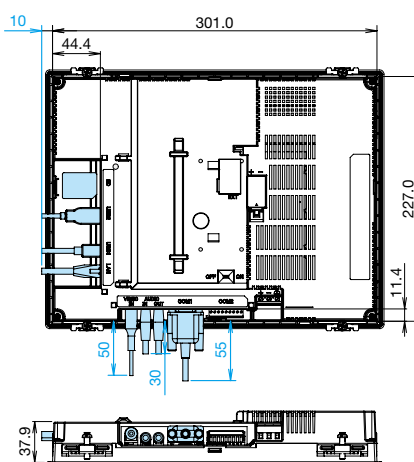
## HG4G Operator Interface

| Display Screen                        | Operation Style                 | Communication/Memory Interface                        | Video/Audio Interface             | Housing/Bezel Color | Part No. (Ordering No.) | Approvals                                                                               |
|---------------------------------------|---------------------------------|-------------------------------------------------------|-----------------------------------|---------------------|-------------------------|-----------------------------------------------------------------------------------------|
| 12.1-inch TFT color LCD 65,536 colors | Touch Switch (analog resistive) | COM1<br>COM2<br>LAN<br>USB1<br>USB2<br>SD Memory Card | VIDEO IN<br>AUDIO IN<br>AUDIO OUT | Dark gray           | <b>HG4G-CJT22MF-B</b>   | Safety Standards:<br>UL508<br>CSA C22.2 No.142<br>CSA C22.2 No.213<br>ANSI/ISA-12.12.01 |
|                                       |                                 |                                                       | AUDIO OUT                         | Dark gray           | <b>HG4G-CJT22TF-B</b>   | Ship Classification Standards:<br>ABS, LR, NK, DNV                                      |

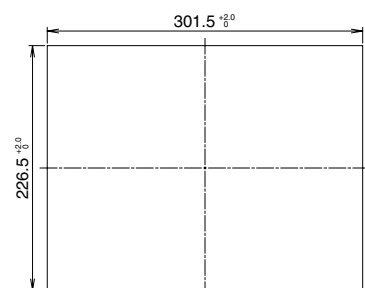
## Dimensions



\* Depth from the expansion module mounting surface.



## Panel Cut-out



Panel Thickness: 2.0 to 5.0 mm

All dimensions in mm.

Note 1: Dimensions in blue show the mounting dimensions of the cable.

Note 2: Dimensions in the figure may vary depending on the type of cable connected.

Note 3: Install the HG4G into a panel cut-out by tightening the four mounting clips (supplied with the HG4G) to a torque of 0.5 to 0.6 N·m.

Do not tighten with excessive force, otherwise the HG4G and screen may become distorted. Also waterproof characteristics may be lost.



## General Specifications

|                                        |                                                                                                                                                              |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Power Voltage                    | 24V DC                                                                                                                                                       |
| Power Voltage Range                    | 20.4 to 28.8V DC                                                                                                                                             |
| Power Consumption                      | 27W maximum<br>18W maximum when not using USB interface (USB2)<br>or expansion module interface (EXT)                                                        |
| Allowable Momentary Power Interruption | 10 ms maximum                                                                                                                                                |
| Inrush Current                         | 30A maximum                                                                                                                                                  |
| Dielectric Strength                    | 1,000V AC, 10 mA, 1 minute between power and FG terminals                                                                                                    |
| Operating Temperature                  | 0 to +50°C (no freezing)                                                                                                                                     |
| Operating Humidity                     | 10 to 90% RH (no condensation)                                                                                                                               |
| Storage Temperature                    | -20 to +60°C (no freezing)                                                                                                                                   |
| Storage Humidity                       | 10 to 90% RH (no condensation)                                                                                                                               |
| Pollution Degree                       | 2                                                                                                                                                            |
| Vibration Resistance                   | 5 to 8.4 Hz amplitude 3.5 mm,<br>8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup><br>10 cycles (100 minutes) on each of three mutually<br>perpendicular axes |
| Shock Resistance                       | 147 m/s <sup>2</sup> , 11 ms<br>5 shocks on each of three mutually perpendicular axes                                                                        |
| Noise Immunity                         | Fast transient/burst test,<br>Power terminals: ±2 kV, Communication line: ±1 kV<br>(IEC/EN61131-2: 2007)                                                     |
| Electrostatic Discharge                | Contact ±6 kV, air ±8 kV<br>(IEC/EN61131-2: 2007)                                                                                                            |
| Corrosion Immunity                     | Free from corrosive gases                                                                                                                                    |
| Mounting                               | Panel mounting (Panel Thickness: 2.0 to 5.0 mm)                                                                                                              |
| Degree of Protection                   | IP66 (IEC 60529) (front part when mounted) *1<br>TYPE 4X TYPE 13 *2                                                                                          |
| Dimensions                             | 314.0W × 240.0H × 54.1D mm                                                                                                                                   |
| Weight (approx.)                       | 2.1 kg                                                                                                                                                       |

- Do not use the HG4G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.
- \*1 Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.
- \*2 Operation not guaranteed when used with certain types of oils.

## Display Specifications

|                         |                                                                                                                          |                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display                 | TFT Color LCD                                                                                                            |                                                                                                                                                                                  |
| Color/Shade             | 65,536 colors                                                                                                            |                                                                                                                                                                                  |
| Effective Display Area  | 246.0W × 184.5H mm                                                                                                       |                                                                                                                                                                                  |
| Display Resolution      | 800W × 600H pixels                                                                                                       |                                                                                                                                                                                  |
| View Angle              | Right and left 80°, up 80°, down 60°                                                                                     |                                                                                                                                                                                  |
| Backlight               | LED                                                                                                                      |                                                                                                                                                                                  |
| Backlight Life          | 100,000 hours minimum *1                                                                                                 |                                                                                                                                                                                  |
| Brightness              | 550 cd/m <sup>2</sup> *2                                                                                                 |                                                                                                                                                                                  |
| Brightness Adjustment   | 48 levels                                                                                                                |                                                                                                                                                                                  |
| Backlight Replacement   | Not possible                                                                                                             |                                                                                                                                                                                  |
| Display Character Size  | 1/4 size                                                                                                                 | 8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |
|                         | 1/2 size                                                                                                                 | 8 × 16 pixels (Western European language ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |
|                         | Full size                                                                                                                | 16 × 32 pixels, 24 × 48 pixels, 32 × 64 pixels (Western European language: ISO 8859-1)                                                                                           |
|                         | Double size                                                                                                              | 16 × 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)                                                                 |
|                         | Double size                                                                                                              | 32 × 32 pixels (Japanese JIS first level characters, Mincho font)                                                                                                                |
|                         | Scalable                                                                                                                 | Width 8 to 128 dots (1/2 size fixed) (ISO 8859-1 western language, 7-segment)                                                                                                    |
| Quantity of Characters  | 1/4 size                                                                                                                 | 100 characters × 75 lines                                                                                                                                                        |
|                         | 1/2 size                                                                                                                 | 100 characters × 37 lines                                                                                                                                                        |
|                         | Full size                                                                                                                | 50 characters × 37 lines                                                                                                                                                         |
|                         | Double size                                                                                                              | 25 characters × 18 lines (Mincho font)                                                                                                                                           |
| Character Magnification | 0.5, 1 to 8 vertically and horizontally (except for scalable fonts)                                                      |                                                                                                                                                                                  |
| Character Attribute     | Blink (1 or 0.5 sec period), reverse, bold, shadowed                                                                     |                                                                                                                                                                                  |
| Graphics                | Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image |                                                                                                                                                                                  |
| Window Display          | 3 popup screens + 1 system screen                                                                                        |                                                                                                                                                                                  |

- \*1 The backlight life refers to the time until the brightness reduces by half after use at 25°C.
- \*2 Brightness of the LCD only.

## Operation Specifications

|                       |                                     |
|-----------------------|-------------------------------------|
| Switching Element     | Analog resistive membrane           |
| Operating Force       | 3N maximum                          |
| Mechanical Life       | 1,000,000 operations                |
| Acknowledgement Sound | Electronic buzzer or speaker output |

## Function Specifications

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen Types              | Base screen, popup screen, system screen                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| No. of Screens            | Base screen: 3,000 max.<br>Popup screen: 3,015 max.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User Memory               | 12 MB (including expansion fonts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Parts                     | Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command, Timer, Screen Script Command, Multi Command, Video Display |
| Calendar                  | Year, Month, Day, Hour, Min., Sec., Day of Week<br>±60 sec per month (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power Failure Backup Data | Calendar, log data, keep internal relay, keep internal register                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Battery                   | Recommended replacement span: every 4 years (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Interface Specifications

|                                  |                            |                                                                        |
|----------------------------------|----------------------------|------------------------------------------------------------------------|
| Serial Interface (COM1)          | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
|                                  | Control System             | Hardware control or none                                               |
| Serial Interface (COM2)          | Connector                  | D-sub 9-pin connector                                                  |
|                                  | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
| Ethernet Interface (LAN)         | Control System             | Hardware control or none                                               |
|                                  | Connector                  | Detachable 9-pin terminal block                                        |
| Ethernet Interface (LAN)         | Interface                  | IEEE802.3u (10/100BASE-T) compliant                                    |
|                                  | Connector                  | Modular connector (RJ-45)                                              |
| Video Interface (VIDEO IN)       | Interface                  | NTSC/PAL                                                               |
|                                  | Connector                  | Pin jack                                                               |
| Audio Interface (AUDIO IN)       | Interface                  | LINE IN (stereo)                                                       |
|                                  | Connector                  | Mini jack connector (ø3.5 mm)                                          |
| Audio Interface (AUDIO OUT)      | Interface                  | LINE OUT (stereo)                                                      |
|                                  | Connector                  | Mini jack connector (ø3.5 mm)                                          |
| USB Interface (USB2)             | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
|                                  | Connector                  | USB Type A connector                                                   |
| USB Interface (USB1)             | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
|                                  | Connector                  | USB Type Mini-B connector                                              |
| Memory Card Interface (SD)       | Interface                  | SD memory card, SDHC memory card                                       |
|                                  | Connector                  | SD memory card socket                                                  |
| Expansion Module Interface (EXT) | Interface                  | MicroSmart I/O module interface                                        |
|                                  | Output current             | 5V 130 mA<br>24V 150 mA                                                |
|                                  | Max. no. of units          | 4 units                                                                |

Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

# HG3G Operator Interface

10.4  
inch

Excellent visibility by super-bright LED backlight.  
700 cd/m<sup>2</sup> (10.4-inch)



| No. | Name                        |
|-----|-----------------------------|
| ①   | Power LED                   |
| ②   | Display                     |
| ③   | Touchscreen                 |
| ④   | Power Supply Terminal       |
| ⑤   | Serial Interface (COM2)     |
| ⑥   | Serial Interface (COM1)     |
| ⑦   | Audio Interface (AUDIO OUT) |
| ⑧   | Ethernet Interface (LAN)    |
| ⑨   | USB Interface (USB1)        |

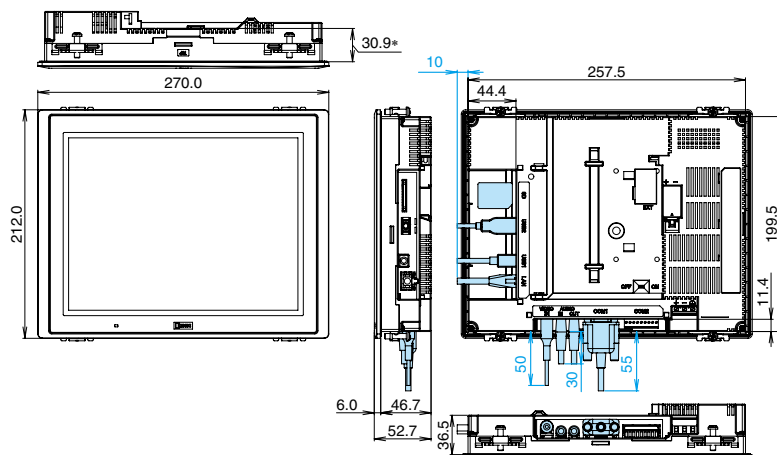
| No. | Name                             |
|-----|----------------------------------|
| ⑩   | USB Interface (USB2)             |
| ⑪   | Memory Card Interface (SD)       |
| ⑫   | SD Memory Access LED             |
| ⑬   | Expansion Module Interface (EXT) |
| ⑭   | Battery Cover                    |
| ⑮   | Terminal Resistor Switch         |
| ⑯   | Audio Interface (AUDIO IN)       |
| ⑰   | Video Interface (VIDEO IN)       |

UL LISTED (Approval for HG3G operator interface only, excluding options or expansion modules.)

## HG3G Operator Interface

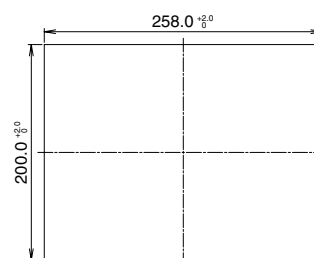
| Display Screen                           | Operation Style                 | Communication/Memory Interface                        | Video/Audio Interface             | Housing/Bezel Color | Part No. (Ordering No.) | Approvals                                                                               |
|------------------------------------------|---------------------------------|-------------------------------------------------------|-----------------------------------|---------------------|-------------------------|-----------------------------------------------------------------------------------------|
| 10.4-inch TFT color LCD<br>65,536 colors | Touch Switch (analog resistive) | COM1<br>COM2<br>LAN<br>USB1<br>USB2<br>SD Memory Card | VIDEO IN<br>AUDIO IN<br>AUDIO OUT | Light gray          | HG3G-AJT22MF-W          | Safety Standards:<br>UL508<br>CSA C22.2 No.142<br>CSA C22.2 No.213<br>ANSI/ISA-12.12.01 |
|                                          |                                 |                                                       |                                   | Dark gray           | HG3G-AJT22MF-B          |                                                                                         |
|                                          |                                 |                                                       | AUDIO OUT                         | Light gray          | HG3G-AJT22TF-W          | Ship Classification Standards:<br>ABS, LR, NK, DNV                                      |
|                                          |                                 |                                                       |                                   | Dark gray           | HG3G-AJT22TF-B          |                                                                                         |

## Dimensions



\* Depth from the expansion module mounting surface.

## Panel Cut-out



Panel Thickness: 2.0 to 5.0 mm

All dimensions in mm.

Note 1: Dimensions in blue show the mounting dimensions of the cable.

Note 2: Dimensions in the figure vary depending on the type of cable connected.

Note 3: Install the HG3G into a panel cut-out by tightening the four mounting clips (supplied) to a torque of 0.5 to 0.6 N-m.

Do not tighten with excessive force, otherwise the HG3G and screen may be distorted. Also waterproof characteristics may be lost.



## General Specifications

|                                        |                                                                                                                                                           |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                                  | HG3G-A (10.4 inch)                                                                                                                                        |
| Rated Power Voltage                    | 24V DC                                                                                                                                                    |
| Power Voltage Range                    | 20.4 to 28.8V DC                                                                                                                                          |
| Power Consumption                      | 25W maximum<br>15W maximum when not using USB interface (USB2) or expansion module interface (EXT)                                                        |
| Allowable Momentary Power Interruption | 10 ms maximum                                                                                                                                             |
| Inrush Current                         | 30A maximum                                                                                                                                               |
| Dielectric Strength                    | 1,000V AC, 10 mA, 1 minute between power and FG terminals                                                                                                 |
| Operating Temperature                  | 0 to +50°C (no freezing)                                                                                                                                  |
| Operating Humidity                     | 10 to 90% RH (no condensation)                                                                                                                            |
| Storage Temperature                    | -20 to +60°C (no freezing)                                                                                                                                |
| Storage Humidity                       | 10 to 90% RH (no condensation)                                                                                                                            |
| Pollution Degree                       | 2                                                                                                                                                         |
| Vibration Resistance                   | 5 to 8.4 Hz amplitude 3.5 mm,<br>8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup><br>10 cycles (100 minutes) on each of three mutually perpendicular axes |
| Shock Resistance                       | 147 m/s <sup>2</sup> , 11 ms<br>5 shocks on each of three mutually perpendicular axes                                                                     |
| Noise Immunity                         | Fast transient/burst test,<br>Power terminals: ±2 kV, Communication line: ±1 kV<br>(IEC/EN 61131-2: 2007)                                                 |
| Electrostatic Discharge                | Contact ±6 kV, air ±8 kV<br>(IEC/EN 61131-2: 2007)                                                                                                        |
| Corrosion Immunity                     | Free from corrosive gases                                                                                                                                 |
| Mounting                               | Panel mounting (Panel Thickness: 2.0 to 5.0 mm)                                                                                                           |
| Degree of Protection                   | IP66 (IEC 60529) (front part when mounted) *1<br>TYPE 4X TYPE 13 *2                                                                                       |
| Dimensions                             | 270.0W × 212.0H × 52.7D mm                                                                                                                                |
| Weight (approx.)                       | 1.65 kg                                                                                                                                                   |

- Do not use the HG3G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.
- \*1 Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.
- \*2 Operation not guaranteed when used with certain types of oils.

## Display Specifications

|                         |                                                                                                                          |                                                                                                                                                                                  |  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Model                   | HG3G-A (10.4 inch)                                                                                                       |                                                                                                                                                                                  |  |
| Display Color           | TFT Color LCD                                                                                                            |                                                                                                                                                                                  |  |
| Color/Shade             | 65,536 colors                                                                                                            |                                                                                                                                                                                  |  |
| Effective Display Area  | 211.2 W × 158.4 H mm                                                                                                     |                                                                                                                                                                                  |  |
| Display Resolution      | 800 W × 600 H pixels                                                                                                     |                                                                                                                                                                                  |  |
| View Angle              | Right and left 80°, up 80°, down 60°                                                                                     |                                                                                                                                                                                  |  |
| Backlight               | LED                                                                                                                      |                                                                                                                                                                                  |  |
| Backlight Life          | 100,000 hours minimum *1                                                                                                 |                                                                                                                                                                                  |  |
| Brightness              | 700 cd/m <sup>2</sup> *2                                                                                                 |                                                                                                                                                                                  |  |
| Brightness Adjustment   | 48 levels                                                                                                                |                                                                                                                                                                                  |  |
| Backlight Replacement   | Not possible                                                                                                             |                                                                                                                                                                                  |  |
| Display Character Size  | 1/4 size                                                                                                                 | 8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |  |
|                         | 1/2 size                                                                                                                 | 8 × 16 pixels (Western European language ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |  |
|                         | Full size                                                                                                                | 16 × 32 pixels, 24 × 48 pixels, 32 × 64 pixels (Western European language: ISO 8859-1)                                                                                           |  |
|                         | Double size                                                                                                              | 16 × 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)                                                                 |  |
|                         | Scalable                                                                                                                 | 32 × 32 pixels (Japanese JIS first level characters, Mincho font)                                                                                                                |  |
| Quantity of Characters  | 1/4 size                                                                                                                 | Width 8 to 128 dots (1/2 size fixed) (ISO 8859-1 western language, 7-segment)                                                                                                    |  |
|                         | 1/2 size                                                                                                                 | 100 characters × 75 lines                                                                                                                                                        |  |
|                         | Full size                                                                                                                | 100 characters × 37 lines                                                                                                                                                        |  |
|                         | Double size                                                                                                              | 50 characters × 37 lines                                                                                                                                                         |  |
| Character Magnification | 25 characters × 18 lines (Mincho font)                                                                                   |                                                                                                                                                                                  |  |
| Character Attribute     | 0.5, 1 to 8 vertically and horizontally (except for scalable fonts)                                                      |                                                                                                                                                                                  |  |
| Graphics                | Blink (1 or 0.5 sec period), reverse, bold, shadowed                                                                     |                                                                                                                                                                                  |  |
| Window Display          | Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image |                                                                                                                                                                                  |  |
|                         | 3 popup screens + 1 system screen                                                                                        |                                                                                                                                                                                  |  |

\*1 The backlight life refers to the time until the brightness reduces by half after use at 25°C.

\*2 Brightness of the LCD only.

## Operation Specifications

|                       |                                     |
|-----------------------|-------------------------------------|
| Switching Element     | Analog resistive membrane           |
| Operating Force       | 0.55 to 2.3N                        |
| Mechanical Life       | 1,000,000 operations                |
| Acknowledgement Sound | Electronic buzzer or speaker output |

## Function Specifications

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen Types              | Base screen, popup screen, system screen                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| No. of Screens            | Base screen: 3,000 max.<br>Popup screen: 3,015 max.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User Memory               | 12 MB (including expansion fonts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Parts                     | Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command, Timer, Screen Script Command, Multi Command, Video Display |
| Calendar                  | Year, Month, Day, Hour, Min., Sec., Day of Week<br>±60 sec per month (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power Failure Backup Data | Calendar, log data, keep internal relay, keep internal register                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Battery                   | Recommended replacement span: every 4 years (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Interface Specifications

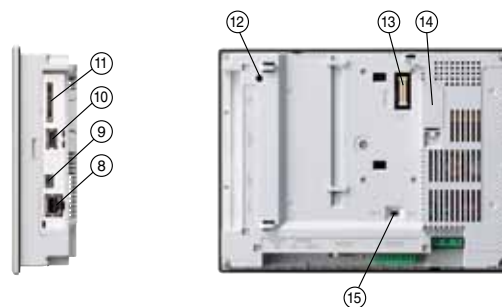
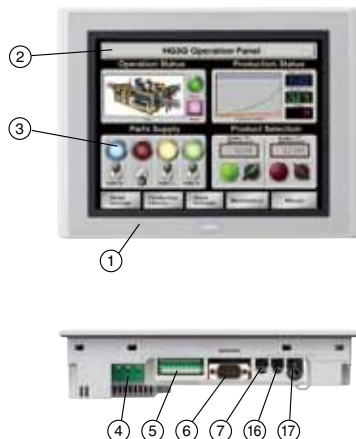
|                                  |                            |                                                                        |
|----------------------------------|----------------------------|------------------------------------------------------------------------|
| Serial Interface (COM1)          | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
|                                  | Control System             | Hardware control or none                                               |
| Serial Interface (COM2)          | Connector                  | D-sub 9-pin connector                                                  |
|                                  | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
| Ethernet Interface (LAN)         | Control System             | Hardware control or none                                               |
|                                  | Connector                  | Detachable 9-pin terminal block                                        |
|                                  | Interface                  | IEEE802.3 (10/100BASE-T) compliant                                     |
| Video Interface (VIDEO IN)       | Connector                  | Modular connector (RJ-45)                                              |
|                                  | Interface                  | NTSC/PAL                                                               |
| Audio Interface (AUDIO IN)       | Connector                  | Pin jack                                                               |
|                                  | Interface                  | LINE IN (stereo)                                                       |
| Audio Interface (AUDIO OUT)      | Connector                  | Mini jack connector (ø3.5 mm)                                          |
|                                  | Interface                  | LINE OUT (stereo)                                                      |
| USB Interface (USB2)             | Connector                  | Mini jack connector (ø3.5 mm)                                          |
|                                  | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
| USB Interface (USB1)             | Connector                  | USB Type A connector                                                   |
|                                  | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
| Memory Card Interface (SD)       | Connector                  | USB Type Mini-B connector                                              |
|                                  | Interface                  | SD memory card, SDHC memory card                                       |
| Expansion Module Interface (EXT) | Connector                  | SD memory card socket                                                  |
|                                  | Interface                  | MicroSmart I/O module interface                                        |
|                                  | Output current             | 5V 130 mA<br>24V 150 mA                                                |
|                                  | Max. no. of units          | 4 units                                                                |

Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

# HG3G Operator Interface

8.4  
inch

Excellent visibility by super-bright LED backlight.  
600 cd/m<sup>2</sup> (8.4-inch)



| No. | Name                        |
|-----|-----------------------------|
| ①   | Power LED                   |
| ②   | Display                     |
| ③   | Touchscreen                 |
| ④   | Power Supply Terminal       |
| ⑤   | Serial Interface (COM2)     |
| ⑥   | Serial Interface (COM1)     |
| ⑦   | Audio Interface (AUDIO OUT) |
| ⑧   | Ethernet Interface (LAN)    |
| ⑨   | USB Interface (USB1)        |

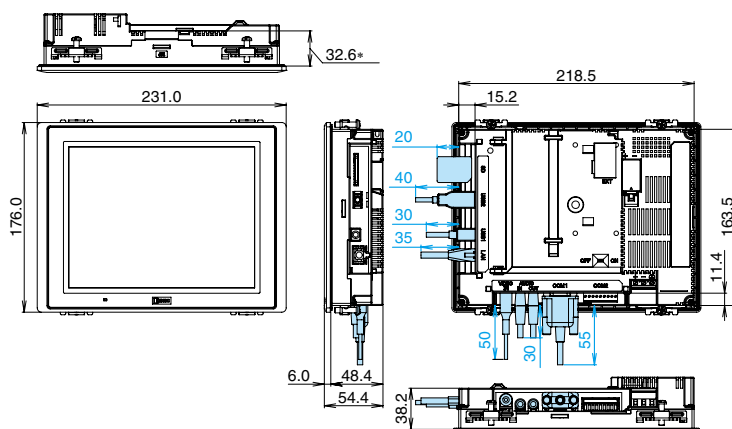
| No. | Name                             |
|-----|----------------------------------|
| ⑩   | USB Interface (USB2)             |
| ⑪   | Memory Card Interface (SD)       |
| ⑫   | SD Memory Access LED             |
| ⑬   | Expansion Module Interface (EXT) |
| ⑭   | Battery Cover                    |
| ⑮   | Terminal Resistor Switch         |
| ⑯   | Audio Interface (AUDIO IN)       |
| ⑰   | Video Interface (VIDEO IN)       |

UL LISTED (Approval for HG3G operator interface only, excluding options or expansion modules.)

## HG3G Operator Interface

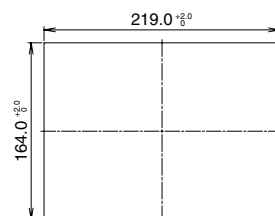
| Display Screen                       | Operation Style                 | Communication/Memory Interface                        | Video/Audio Interface             | Housing/Bezel Color | Part No. (Ordering No.) | Approvals                                                                                                                                              |
|--------------------------------------|---------------------------------|-------------------------------------------------------|-----------------------------------|---------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.4-inch TFT color LCD 65,536 colors | Touch Switch (analog resistive) | COM1<br>COM2<br>LAN<br>USB1<br>USB2<br>SD Memory Card | VIDEO IN<br>AUDIO IN<br>AUDIO OUT | Light gray          | HG3G-8JT22MF-W          | Safety Standards:<br>UL508<br>CSA C22.2 No.142<br>CSA C22.2 No.213<br>ANSI/ISA-12.12.01-2007<br><br>Ship Classification Standards:<br>ABS, LR, NR, DNV |
|                                      |                                 |                                                       |                                   | Dark gray           | HG3G-8JT22MF-B          |                                                                                                                                                        |
|                                      |                                 |                                                       | AUDIO OUT                         | Light gray          | HG3G-8JT22TF-W          |                                                                                                                                                        |
|                                      |                                 |                                                       |                                   | Dark gray           | HG3G-8JT22TF-B          |                                                                                                                                                        |

## Dimensions



\*Depth from the expansion module mounting surface.

## Panel Cut-out



Panel Thickness: 2.0 to 5.0 mm

All dimensions in mm.

Note 1: Dimensions in blue show the mounting dimensions of the cable.

Note 2: Dimensions in the figure vary depending on the type of cable connected.

Note 3: Install the HG3G into a panel cut-out by tightening the four mounting clips (supplied) to a torque of 0.5 to 0.6 N·m.

Do not tighten with excessive force, otherwise the HG3G and screen may be distorted. Also waterproof characteristics may be lost.



## General Specifications

| Model                                  | HG3G-8 (8.4 inch)                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Power Voltage                    | 24V DC                                                                                                                                                    |
| Power Voltage Range                    | 20.4 to 28.8V DC                                                                                                                                          |
| Power Consumption                      | 25W maximum<br>15W maximum when not using USB interface (USB2) or expansion module interface (EXT)                                                        |
| Allowable Momentary Power Interruption | 10 ms maximum                                                                                                                                             |
| Inrush Current                         | 30A maximum                                                                                                                                               |
| Dielectric Strength                    | 1,000V AC, 10 mA, 1 minute between power and FG terminals                                                                                                 |
| Operating Temperature                  | 0 to +50°C (no freezing)                                                                                                                                  |
| Operating Humidity                     | 10 to 90% RH (no condensation)                                                                                                                            |
| Storage Temperature                    | -20 to +60°C (no freezing)                                                                                                                                |
| Storage Humidity                       | 10 to 90% RH (no condensation)                                                                                                                            |
| Pollution Degree                       | 2                                                                                                                                                         |
| Vibration Resistance                   | 5 to 8.4 Hz amplitude 3.5 mm,<br>8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup><br>10 cycles (100 minutes) on each of three mutually perpendicular axes |
| Shock Resistance                       | 147 m/s <sup>2</sup> , 11 ms<br>5 shocks on each of three mutually perpendicular axes                                                                     |
| Noise Immunity                         | Fast transient/burst test,<br>Power terminals: ±2 kV, Communication line: ±1 kV<br>(IEC/EN 61131-2: 2007)                                                 |
| Electrostatic Discharge                | Contact ±6 kV, air ±8 kV<br>(IEC/EN 61131-2: 2007)                                                                                                        |
| Corrosion Immunity                     | Free from corrosive gases                                                                                                                                 |
| Mounting                               | Panel mounting (Panel Thickness: 2.0 to 5.0 mm)                                                                                                           |
| Degree of Protection                   | IP66 (IEC 60529) (front part when mounted) *1<br>TYPE 4X TYPE 13 *2                                                                                       |
| Dimensions                             | 231.0W × 176.0H × 54.4D mm                                                                                                                                |
| Weight (approx.)                       | 1.25 kg                                                                                                                                                   |

- Do not use the HG3G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.
- \*1 Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.
- \*2 Operation not guaranteed when used with certain types of oils.

## Display Specifications

|                         |                                                                                                                          |                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                   | HG3G-8 (8.4 inch)                                                                                                        |                                                                                                                                                                                  |
| Display                 | TFT Color LCD                                                                                                            |                                                                                                                                                                                  |
| Color/Shade             | 65,536 colors                                                                                                            |                                                                                                                                                                                  |
| Effective Display Area  | 170.4W × 127.8H mm                                                                                                       |                                                                                                                                                                                  |
| Display Resolution      | 800W × 600H pixels                                                                                                       |                                                                                                                                                                                  |
| View Angle              | Right and left 80°, up 80°, down 60°                                                                                     |                                                                                                                                                                                  |
| Backlight               | LED                                                                                                                      |                                                                                                                                                                                  |
| Backlight Life          | 100,000 hours minimum *1                                                                                                 |                                                                                                                                                                                  |
| Brightness              | 600 cd/m² *2                                                                                                             |                                                                                                                                                                                  |
| Brightness Adjustment   | 48 levels                                                                                                                |                                                                                                                                                                                  |
| Backlight Replacement   | Not possible                                                                                                             |                                                                                                                                                                                  |
| Display Character Size  | 1/4 size                                                                                                                 | 8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |
|                         | 1/2 size                                                                                                                 | 8 × 16 pixels (Western European language ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code) |
|                         | Full size                                                                                                                | 16 × 32 pixels, 24 × 48 pixels, 32 × 64 pixels (Western European language: ISO 8859-1)                                                                                           |
|                         | Double size                                                                                                              | 16 × 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)                                                                 |
|                         | Scalable                                                                                                                 | 32 × 32 pixels (Japanese JIS first level characters, Mincho font)                                                                                                                |
| Quantity of Characters  | 1/4 size                                                                                                                 | Width 8 to 128 dots (1/2 size fixed) (ISO 8859-1 western language, 7-segment)                                                                                                    |
|                         | 1/2 size                                                                                                                 | 100 characters × 75 lines                                                                                                                                                        |
|                         | Full size                                                                                                                | 100 characters × 37 lines                                                                                                                                                        |
|                         | Double size                                                                                                              | 50 characters × 37 lines                                                                                                                                                         |
| Character Magnification | 0.5, 1 to 8 vertically and horizontally (except for scalable fonts)                                                      |                                                                                                                                                                                  |
| Character Attribute     | Blink (1 or 0.5 sec period), reverse, bold, shadowed                                                                     |                                                                                                                                                                                  |
| Graphics                | Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image |                                                                                                                                                                                  |
| Window Display          | 3 popup screens + 1 system screen                                                                                        |                                                                                                                                                                                  |

- \*1 The backlight life refers to the time until the brightness reduces by half after use at 25°C.
- \*2 Brightness of the LCD only.

## Operation Specifications

|                       |                                     |
|-----------------------|-------------------------------------|
| Switching Element     | Analog resistive membrane           |
| Operating Force       | 0.55 to 2.3N                        |
| Mechanical Life       | 1,000,000 operations                |
| Acknowledgement Sound | Electronic buzzer or speaker output |

## Function Specifications

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen Types              | Base screen, popup screen, system screen                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| No. of Screens            | Base screen: 3,000 max.<br>Popup screen: 3,015 max.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| User Memory               | 12 MB (including expansion fonts)                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Parts                     | Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command, Timer, Screen Script Command, Multi Command, Video Display |
| Calendar                  | Year, Month, Day, Hour, Min., Sec., Day of Week<br>±60 sec per month (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Power Failure Backup Data | Calendar, log data, keep internal relay, keep internal register                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Battery                   | Recommended replacement span: every 4 years (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Interface Specifications

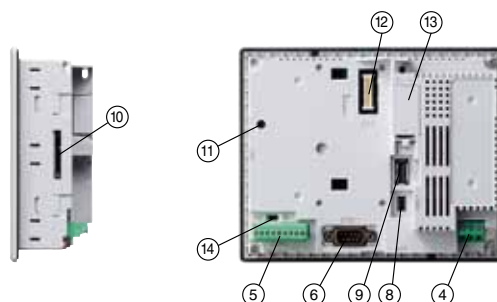
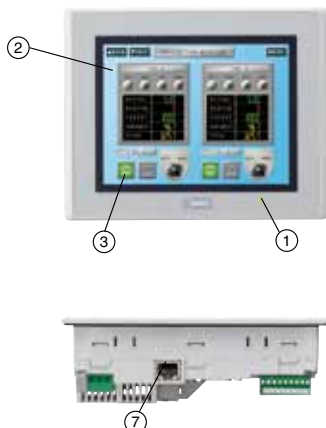
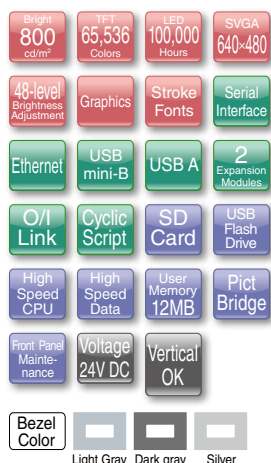
|                                  |                            |                                                                        |
|----------------------------------|----------------------------|------------------------------------------------------------------------|
| Serial Interface (COM1)          | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
|                                  | Control System             | Hardware control or none                                               |
| Serial Interface (COM2)          | Connector                  | D-sub 9-pin connector                                                  |
|                                  | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
| Ethernet Interface (LAN)         | Control System             | Hardware control or none                                               |
|                                  | Connector                  | Detachable 9-pin terminal block                                        |
| Video Interface (VIDEO IN)       | Interface                  | IEEE802.3u (10/100BASE-T) compliant                                    |
|                                  | Connector                  | Modular connector (RJ-45)                                              |
| Audio Interface (AUDIO IN)       | Interface                  | NTSC/PAL                                                               |
|                                  | Connector                  | Pin jack                                                               |
| Audio Interface (AUDIO OUT)      | Interface                  | LINE IN (stereo)                                                       |
|                                  | Connector                  | Mini jack connector (ø3.5 mm)                                          |
| USB Interface (USB2)             | Interface                  | LINE OUT (stereo)                                                      |
|                                  | Connector                  | Mini jack connector (ø3.5 mm)                                          |
| USB Interface (USB1)             | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
|                                  | Connector                  | USB Type A connector                                                   |
| Memory Card Interface (SD)       | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
|                                  | Connector                  | USB Type Mini-B connector                                              |
| Expansion Module Interface (EXT) | Interface                  | SD memory card, SDHC memory card                                       |
|                                  | Connector                  | SD memory card socket                                                  |
|                                  | Interface                  | MicroSmart I/O module interface                                        |
|                                  | Output current             | 5V 130 mA<br>24V 150 mA                                                |
|                                  | Max. no. of units          | 4 units                                                                |

Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

5.7  
inch

# HG2G Operator Interface (High Performance)

Excellent visibility by super-bright LED backlight.  
800 cd/m<sup>2</sup> (5.7-inch)



| No. | Name                     |
|-----|--------------------------|
| ①   | Power LED                |
| ②   | Display                  |
| ③   | Touchscreen              |
| ④   | Power Supply Terminal    |
| ⑤   | Serial Interface (COM2)  |
| ⑥   | Serial Interface (COM1)  |
| ⑦   | Ethernet Interface (LAN) |

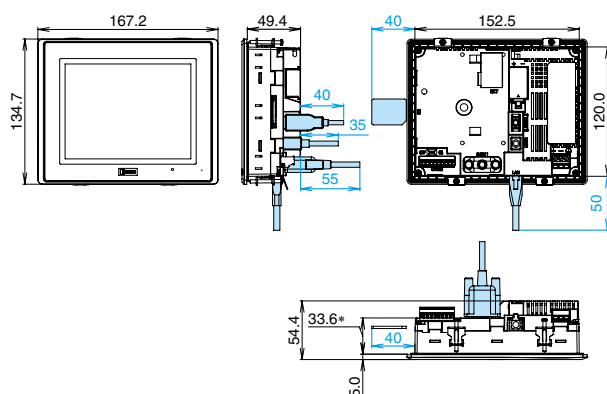
| No. | Name                             |
|-----|----------------------------------|
| ⑧   | USB Interface (USB1)             |
| ⑨   | USB Interface (USB2)             |
| ⑩   | Memory Card Interface (SD)       |
| ⑪   | SD Memory Access LED             |
| ⑫   | Expansion Module Interface (EXT) |
| ⑬   | Battery Cover                    |
| ⑭   | Terminal Resistor Switch         |

(Approval for HG2G operator interface only, excluding options or expansion modules.)

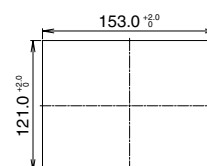
## HG2G Operator Interface

| Display Screen                          | Operation Style                 | Communication/Memory Interface                          | Housing/Bezel Color | Part No. (Ordering No.) | Approvals                                                                                                                                     |
|-----------------------------------------|---------------------------------|---------------------------------------------------------|---------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 5.7-inch TFT color LCD<br>65,536 colors | Touch Switch (analog resistive) | COM1<br>COM2<br>LAN<br>USB 1<br>USB 2<br>SD Memory Card | Light gray          | <b>HG2G-5FT22TF-W</b>   | Safety Standards:<br>UL508<br>CSA C22.2 No.142<br>CSA C22.2 No.213<br>ANSI/ISA-12.12.01<br>Ship Classification Standards:<br>ABS, LR, NK, DNV |
|                                         |                                 |                                                         | Dark gray           | <b>HG2G-5FT22TF-B</b>   |                                                                                                                                               |
|                                         |                                 |                                                         | Silver              | <b>HG2G-5FT22TF-S</b>   |                                                                                                                                               |

## Dimensions



## Panel Cut-out



Panel Thickness: 1.0 to 5.0 mm

All dimensions in mm.

\*Depth from the expansion module mounting surface.

Note 1: Dimensions in blue show the mounting dimensions of the cable.

Note 2: Dimensions in the figure vary depending on the type of cable connected.

Note 3: Install the HG2G into a panel cut-out by tightening the four mounting clips (supplied) to a torque of 0.2 to 0.3 N·m.

Do not tighten with excessive force, otherwise the HG2G and screen may be distorted. Also waterproof characteristics may be lost.



# HG2G Operator Interface (High Performance)

## General Specifications

|                                        |                                                                                                                                                              |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Power Voltage                    | 24V DC                                                                                                                                                       |
| Power Voltage Range                    | 20.4 to 28.8V DC                                                                                                                                             |
| Power Consumption                      | 19W maximum<br>10W maximum when not using USB interface (USB2)<br>or expansion module interface (EXT)                                                        |
| Allowable Momentary Power Interruption | 10 ms maximum                                                                                                                                                |
| Inrush Current                         | 30A maximum                                                                                                                                                  |
| Dielectric Strength                    | 1,000V AC, 10 mA, 1 minute between power and FG terminals                                                                                                    |
| Operating Temperature                  | 0 to +50°C (no freezing)                                                                                                                                     |
| Operating Humidity                     | 10 to 90% RH (no condensation)                                                                                                                               |
| Storage Temperature                    | -20 to +60°C (no freezing)                                                                                                                                   |
| Storage Humidity                       | 10 to 90% RH (no condensation)                                                                                                                               |
| Pollution Degree                       | 2                                                                                                                                                            |
| Vibration Resistance                   | 5 to 8.4 Hz amplitude 3.5 mm,<br>8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup><br>10 cycles (100 minutes) on each of three mutually<br>perpendicular axes |
| Shock Resistance                       | 147 m/s <sup>2</sup> , 11 ms<br>5 shocks on each of three mutually perpendicular axes                                                                        |
| Noise Immunity                         | Fast transient/burst test,<br>Power terminals: ±1 kV, Communication line: ±0.5 kV<br>(IEC/EN 61131-2: 2007)                                                  |
| Electrostatic Discharge                | Contact ±6 kV, air ±8 kV<br>(IEC/EN 61131-2: 2007)                                                                                                           |
| Corrosion Immunity                     | Free from corrosive gases                                                                                                                                    |
| Mounting                               | Panel mounting (Panel Thickness: 1.0 to 5.0 mm)                                                                                                              |
| Degree of Protection                   | IP66 (IEC 60529) (front part when mounted) *1<br>TYPE 4X TYPE 13 *2                                                                                          |
| Dimensions                             | 167.2W × 134.7H × 54.4D mm                                                                                                                                   |
| Weight (approx.)                       | 0.65 kg                                                                                                                                                      |

- Do not use the HG2G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.
- \*1 Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.
- \*2 Operation not guaranteed when used with certain types of oils.

## Display Specifications

|                         |                                                                                                                          |                                                                                                                                           |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Display                 | TFT Color LCD                                                                                                            |                                                                                                                                           |
| Color/Shade             | 65,536 colors                                                                                                            |                                                                                                                                           |
| Effective Display Area  | 115.2W × 86.4H mm                                                                                                        |                                                                                                                                           |
| Display Resolution      | 640W × 480H pixels                                                                                                       |                                                                                                                                           |
| View Angle              | Right and left 80°, up 80°, down 80°                                                                                     |                                                                                                                                           |
| Backlight               | LED                                                                                                                      |                                                                                                                                           |
| Backlight Life          | 100,000 hours *1                                                                                                         |                                                                                                                                           |
| Brightness              | 800 cd/m² *2                                                                                                             |                                                                                                                                           |
| Brightness Adjustment   | 48 levels                                                                                                                |                                                                                                                                           |
| Backlight Replacement   | Not possible                                                                                                             |                                                                                                                                           |
| Display Character Size  | 1/4 size                                                                                                                 | 8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Japanese katakana and symbols: JIS 8-bit code) |
|                         | 1/2 size                                                                                                                 | 8 × 16 pixels (Western European language ISO 8859-1, Central European language: ANSI 1250, Japanese katakana and symbols: JIS 8-bit code) |
|                         |                                                                                                                          | 16 × 32 pixels, 24 × 48 pixels, 32 × 64 pixels (Western European language: ISO 8859-1)                                                    |
|                         | Full size                                                                                                                | 16 × 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)                          |
|                         | Double size                                                                                                              | 32 × 32 pixels (Japanese JIS first level characters, Mincho font)                                                                         |
|                         | Scalable                                                                                                                 | Width 8 to 128 dots (1/2 size fixed) (ISO 8859-1 western language, 7-segment)                                                             |
| Quantity of Characters  | 1/4 size                                                                                                                 | 80 characters × 60 lines                                                                                                                  |
|                         | 1/2 size                                                                                                                 | 80 characters × 30 lines                                                                                                                  |
|                         | Full size                                                                                                                | 40 characters × 30 lines                                                                                                                  |
|                         | Double size                                                                                                              | 20 characters × 15 lines (Mincho font)                                                                                                    |
| Character Magnification | 0.5, 1 to 8 vertically and horizontally (except for scalable fonts)                                                      |                                                                                                                                           |
| Character Attribute     | Blink (1 or 0.5 sec period), reverse, bold, shadowed                                                                     |                                                                                                                                           |
| Graphics                | Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image |                                                                                                                                           |
| Window Display          | 3 popup screens + 1 system screen                                                                                        |                                                                                                                                           |

- \*1 The backlight life refers to the time until the brightness reduces by half after use at 25°C.
- \*2 Brightness of the LCD only.

## Operation Specifications

|                       |                           |
|-----------------------|---------------------------|
| Switching Element     | Analog resistive membrane |
| Operating Force       | 3N maximum                |
| Mechanical Life       | 1,000,000 operations      |
| Acknowledgement Sound | Electronic buzzer         |

## Function Specifications

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen Types              | Base screen, popup screen, system screen                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| No. of Screens            | Base screen: 3,000 max.<br>Popup screen: 3,015 max.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| User Memory               | 12 MB (including expansion fonts)                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Parts                     | Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command, Timer, Screen Script Command, Multi Command |
| Calendar                  | Year, Month, Day, Hour, Min., Sec., Day of Week<br>±60 sec per month (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                          |
| Power Failure Backup Data | Calendar, log data, keep internal relay, keep internal register                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Battery                   | Recommended replacement span: every 4 years (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Interface Specifications

|                                  |                            |                                                                        |
|----------------------------------|----------------------------|------------------------------------------------------------------------|
| Serial Interface (COM1)          | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
|                                  | Control System             | Hardware control or none                                               |
| Serial Interface (COM2)          | Connector                  | D-sub 9-pin connector                                                  |
|                                  | Electrical Characteristics | EIA RS232C, RS422/485 compliant                                        |
|                                  | Transmission Speed         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                                  | Synchronization            | Asynchronous                                                           |
|                                  | Communication Method       | Half or full duplex                                                    |
| Ethernet Interface (LAN)         | Control System             | Hardware control or none                                               |
|                                  | Connector                  | Detachable 9-pin terminal block                                        |
|                                  | Interface                  | IEEE802.3u (10/100BASE-T) compliant                                    |
|                                  | Connector                  | Modular connector (RJ-45)                                              |
|                                  | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
| USB Interface (USB2)             | Connector                  | USB Type A connector                                                   |
|                                  | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
| USB Interface (USB1)             | Connector                  | USB Type Mini-B connector                                              |
|                                  | Interface                  | USB 2.0 high speed (480 Mbps)                                          |
| Memory Card Interface (SD)       | Connector                  | SD memory card, SDHC memory card                                       |
|                                  | Interface                  | SD memory card socket                                                  |
| Expansion Module Interface (EXT) | Interface                  | MicroSmart I/O module interface                                        |
|                                  | Output current             | 5V 130 mA<br>24V 150 mA                                                |
|                                  | Max. no. of units          | 2 units                                                                |

Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

5.7  
inch

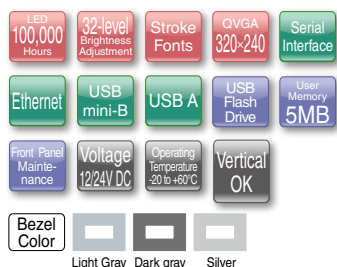
NEW

# HG2G Operator Interface (Basic)

Enhanced visibility and user-friendliness

Supports a wide range of operating temperatures achieving high environmental resistance.

## HG2G-5TT (Color) / HG2G-5TN (Monochrome)



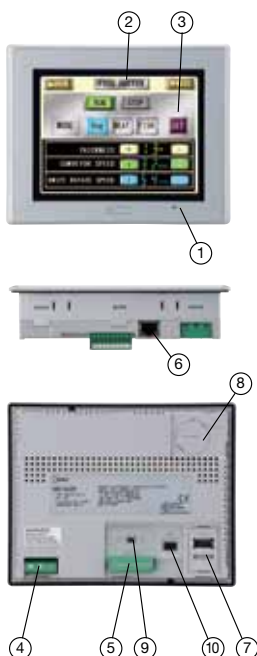
## HG2G-5TT (Color)



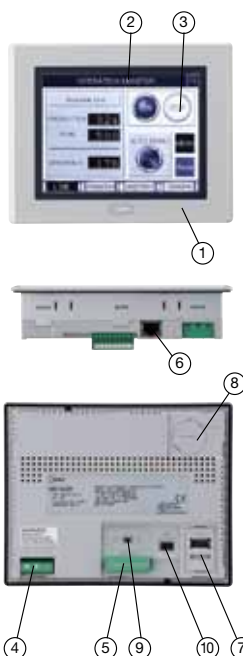
## HG2G-5TN (Monochrome)



## HG2G-5TT (Color)



## HG2G-5TN (Monochrome)



| No. | Name                      |
|-----|---------------------------|
| ①   | Power LED                 |
| ②   | Display                   |
| ③   | Touchscreen               |
| ④   | Power Supply Terminal     |
| ⑤   | Serial Interface 1 (COM1) |
| ⑥   | Ethernet Interface (LAN)  |
| ⑦   | USB Interface (USB2)      |
| ⑧   | Battery Cover             |
| ⑨   | Terminal Resistor Switch  |
| ⑩   | USB Interface (USB1)      |



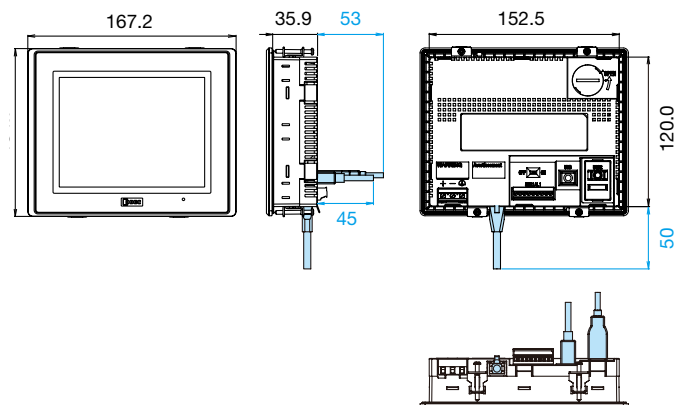
(Approval for HG2G operator interface only, excluding options or expansion modules.)

## HG2G Operator Interface

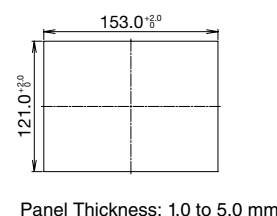
| Display Screen                           | Operation Style                    | Communication/Memory Interface | Housing/Bezel Color | Part No. (Ordering No.) | Approvals                                                          |
|------------------------------------------|------------------------------------|--------------------------------|---------------------|-------------------------|--------------------------------------------------------------------|
| 5.7-inch TFT color LCD<br>65,536 colors  | Touch Switch<br>(analog resistive) | COM1<br>LAN<br>USB 1<br>USB 2  | Light gray          | <b>HG2G-5TT22TF-W</b>   | UL508<br>CSA C22.2 No.142<br>CSA C22.2 No.213<br>ANSI/ISA-12.12.01 |
|                                          |                                    |                                | Dark gray           | <b>HG2G-5TT22TF-B</b>   |                                                                    |
|                                          |                                    |                                | Silver              | <b>HG2G-5TT22TF-S</b>   |                                                                    |
| 5.7-inch TFT Monochrome LCD<br>16 shades |                                    |                                | Light gray          | <b>HG2G-5TN22TF-W</b>   |                                                                    |
|                                          |                                    |                                | Dark gray           | <b>HG2G-5TN22TF-B</b>   |                                                                    |
|                                          |                                    |                                | Silver              | <b>HG2G-5TN22TF-S</b>   |                                                                    |

• Models with a coated board that can be used even in harsh environments and bright color (1000 cd/m<sup>2</sup>) models are also available.

## Dimensions



## Panel Cut-out



All dimensions in mm.

Note 1: Dimensions in blue show the mounting dimensions of the cable.

Note 2: Dimensions in the figure vary depending on the type of cable connected.

Note 3: Install the HG2G into a panel cut-out by tightening the four mounting clips (supplied) to a torque of 0.2 to 0.3 N·m.

Do not tighten with excessive force, otherwise the HG2G and screen may be distorted. Also waterproof characteristics may be lost.



## General Specifications

| Model                                  | HG2G-5TT (Color) / HG2G-5TN (Monochrome)                                                                                                                  |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Power Voltage                    | 12V DC/24 V DC                                                                                                                                            |
| Power Voltage Range                    | 10.2 to 28.8V DC                                                                                                                                          |
| Power Consumption                      | 8W maximum<br>4W maximum when not using USB interface (USB2)                                                                                              |
| Allowable Momentary Power Interruption | 10ms maximum (Voltage 20.4 to 28.8V DC)<br>1ms maximum (Voltage 10.2 to 20.4V DC)                                                                         |
| Inrush Current                         | 40A maximum                                                                                                                                               |
| Dielectric Strength                    | 1000V AC, 10 mA, 1 minute between power and FG terminals                                                                                                  |
| Operating Temperature                  | -20 to +60°C (no freezing)                                                                                                                                |
| Operating Humidity                     | 10 to 90% RH (no condensation)                                                                                                                            |
| Storage Temperature                    | -20 to +70°C (no freezing)                                                                                                                                |
| Storage Humidity                       | 10 to 90% RH (no condensation)                                                                                                                            |
| Pollution Degree                       | 2                                                                                                                                                         |
| Vibration Resistance                   | 5 to 8.4 Hz amplitude 3.5 mm,<br>8.4 to 150 Hz, acceleration 9.8 m/s <sup>2</sup><br>10 cycles (100 minutes) on each of three mutually perpendicular axes |
| Shock Resistance                       | 147 m/s <sup>2</sup> , 11 ms<br>5 shocks on each of three mutually perpendicular axes                                                                     |
| Noise Immunity                         | Fast transient/burst test,<br>Power terminals: ±2 kV,<br>Communication line: ±1 kV<br>(IEC/EN 61131-2, IEC/EN 61000-4-4)                                  |
| Electrostatic Discharge                | Contact ±6 kV, air ±8 kV<br>(IEC/EN 61131-2, IEC/EN 61000-4-2)                                                                                            |
| Corrosion Immunity                     | Free from corrosive gases                                                                                                                                 |
| Mounting                               | Panel mounting (Panel Thickness: 1.0 to 5.0 mm)                                                                                                           |
| Degree of Protection                   | IP66F (IEC 60529) (front part when mounted) *1<br>TYPE 4X TYPE 13 *2                                                                                      |
| Dimensions                             | 167.2 W × 134.7 H × 40.9 D mm                                                                                                                             |
| Weight (approx.)                       | 0.5 kg                                                                                                                                                    |

- Do not use the HG2G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.
- \*1 Protection degree of the front surface after mounting. Operation not guaranteed
- \*2 Operation not guaranteed when used with certain types of oils under certain environments.

## Display Specifications

| Model                   | HG2G-5TT                                                                                                                 | HG2G-5TN                                                                                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display                 | TFT color LCD                                                                                                            | TFT Monochrome LCD                                                                                                                                                                    |
| Color/Shade             | 65,536                                                                                                                   | 16 shades                                                                                                                                                                             |
| Effective Display Area  | 115.2W × 86.4H mm                                                                                                        |                                                                                                                                                                                       |
| Display Resolution      | 320W × 240H pixels                                                                                                       |                                                                                                                                                                                       |
| View Angle              | Right and left 80°,<br>up 80°, down 80°                                                                                  | Right and left 65°,<br>up 80°, down 60°                                                                                                                                               |
| Backlight               | LED                                                                                                                      |                                                                                                                                                                                       |
| Backlight Life          | 100,000 hours minimum *1                                                                                                 |                                                                                                                                                                                       |
| Brightness              | 500 cd/m <sup>2</sup> *2                                                                                                 | 1100 cd/m <sup>2</sup> *2                                                                                                                                                             |
| Brightness Adjustment   | 32 levels                                                                                                                |                                                                                                                                                                                       |
| Backlight Replacement   | Not possible                                                                                                             |                                                                                                                                                                                       |
| Display Character Size  | 1/4 size                                                                                                                 | 8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code)      |
|                         | 1/2 size                                                                                                                 | 8 × 16 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, Japanese katakana and symbols: JIS 8-bit code)     |
|                         | Full size                                                                                                                | 16 × 32 pixels, 24 × 48 pixels, 32 × 64 pixels (Western European language: ISO 8859-1)                                                                                                |
|                         | Double size                                                                                                              | 16 × 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)<br>32 × 32 pixels (Japanese JIS first level characters, Mincho font) |
| Quantity of Characters  | 1/4 size                                                                                                                 | 40 characters × 30 lines                                                                                                                                                              |
|                         | 1/2 size                                                                                                                 | 40 characters × 15 lines                                                                                                                                                              |
|                         | Full size                                                                                                                | 20 characters × 15 lines                                                                                                                                                              |
|                         | Double size                                                                                                              | 10 characters × 7 lines                                                                                                                                                               |
| Character Magnification | 0.5, 1 to 8 vertically and horizontally (except for scalable fonts)                                                      |                                                                                                                                                                                       |
| Character Attribute     | Blink (1 or 0.5 sec period), reverse, bold, shadowed                                                                     |                                                                                                                                                                                       |
| Graphics                | Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image |                                                                                                                                                                                       |
| Window Display          | 3 popup screens + 1 system screen                                                                                        |                                                                                                                                                                                       |

\*1 The backlight life refers to the time until the brightness reduces by half after use at 25°C.

\*2 Brightness of the LCD only.

## Operation Specifications

|                       |                           |
|-----------------------|---------------------------|
| Switching Element     | Analog resistive membrane |
| Operating Force       | 3N maximum                |
| Mechanical Life       | 1,000,000 operations      |
| Acknowledgement Sound | Electronic buzzer         |

## Function Specifications

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Screen Types              | Base screen, popup screen, system screen                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| No. of Screens            | Base screen: 3,000 max.<br>Popup screen: 3,015 max.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| User Memory               | 5 MB (including expansion fonts)                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Parts                     | Bit Button, Word Button, Goto Screen, Print Button Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command Screen Script Command, Multi Command, Timer |
| Calendar                  | Year, Month, Day, Hour, Min., Sec., Day of Week<br>±60 sec per month (at 25 °C)                                                                                                                                                                                                                                                                                                                                                                                                       |
| Power Failure Backup Data | Calendar, log data, keep internal relay, keep internal register                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Battery                   | Recommended replacement span: every 4 years (at 25°C)                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Interface Specifications

|                             |                                 |                                            |                                                                        |
|-----------------------------|---------------------------------|--------------------------------------------|------------------------------------------------------------------------|
| Serial Interface 1 (COM1) * | RS232C                          | Electrical Characteristics                 | EIA RS232C compliant                                                   |
|                             |                                 | Transmission Speed                         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps                |
|                             |                                 | Synchronization                            | Asynchronous                                                           |
|                             |                                 | Communication Method                       | Half or full duplex                                                    |
|                             |                                 | Control System                             | Hardware control or none                                               |
|                             | Connector                       | Detachable 9-pin terminal block            |                                                                        |
|                             | EIA RS422/485                   | Electrical Characteristics                 | EIA RS422/485 compliant                                                |
|                             |                                 | Transmission Speed                         | 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note) |
|                             |                                 | Synchronization                            | Asynchronous                                                           |
|                             |                                 | Communication Method                       | Half or full duplex                                                    |
| Control System              |                                 | None                                       |                                                                        |
| Connector                   | Detachable 9-pin terminal block |                                            |                                                                        |
| Ethernet Interface (LAN)    | Interface                       | IEEE802.3u (10BASE-T/100BASE-TX) compliant |                                                                        |
|                             | Connector                       | Connector (RJ-45)                          |                                                                        |
| USB Interface (USB2)        | Interface                       | USB 2.0 full speed (12 Mbps)               |                                                                        |
|                             | Connector                       | USB Type Mini-A connector                  |                                                                        |
| USB Interface (USB1)        | Interface                       | USB 2.0 high speed (480 Mbps)              |                                                                        |
|                             | Connector                       | USB Type Mini-B connector                  |                                                                        |

\*RS232C and RS 422/485 can be used simultaneously.

Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

# HG4G/3G/2G Operator Interface

## Options

| Name                                                   | Part No.<br>(Ordering No.) | Package<br>Quantity | Description                                                                                                                | Applicable Model |      |             |              |              |
|--------------------------------------------------------|----------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------|------------------|------|-------------|--------------|--------------|
|                                                        |                            |                     |                                                                                                                            | HG4G             | HG3G | HG2G<br>-5F | HG2G<br>-5TT | HG2G<br>-5TN |
| Application Software                                   | SW1A-W1C                   | 1                   | Automation Organizer<br>(includes WindO/I-NV2,NV4)                                                                         | √                | √    | √           | √            | √            |
| USB Maintenance Cable (2m)                             | HG9Z-XCM42                 | 1                   | USB Cable USB-miniB                                                                                                        | √                | √    | √           | √            | √            |
| PLC Connection Cable<br>For IDEC MicroSmart (5m)       | HG9Z-XC295                 | 1                   | Mini DIN 8-pin (Dsub 9-pin)                                                                                                | √                | √    | √           | —            | —            |
| PLC Connection Cable<br>For Mitsubishi FX series (5m)  | HG9Z-XC305                 | 1                   | Mini DIN 8-pin (Dsub 9-pin)                                                                                                | √                | √    | √           | —            | —            |
| PLC Connection Cable<br>For Mitsubishi Q series (5m)   | HG9Z-XC315                 | 1                   | Mini DIN 6-pin (Dsub 9-pin)                                                                                                | √                | √    | √           | —            | —            |
| PLC Connection Cable<br>For IDEC MicroSmart (5m)       | HG9Z-XC275                 | 1                   | Mini DIN 8-pin (loose wire)                                                                                                | √                | √    | √           | √            | √            |
| PLC Connection Cable<br>For IDEC MicroSmart (2.4m)     | FC2A-KP1C                  | 1                   | Mini DIN 8-pin (loose wire)                                                                                                | √                | √    | √           | √            | √            |
| USB panel-mount extension<br>cable (1m)                | HG9Z-XCE11                 | 1                   | For USB-A port                                                                                                             | √                | √    | √           | —            | —            |
|                                                        | HG9Z-XCE21                 | 1                   | For USB-mini B port                                                                                                        | √                | √    | √           | √            | —            |
| Connector Conversion Cable<br>(16 cm)                  | HG9Z-XCT11                 | 1                   | To convert from D-sub 25-pin to 9-pin<br>(used when replacing from HG3F/4F to<br>HG4G/3G/2G-F)                             | √                | √    | √           | —            | —            |
| Memory Card                                            | HG9Z-XMS2                  | 1                   | SD Memory Card (2GB)                                                                                                       | √                | √    | √           | —            | —            |
| Protective Cover                                       | HG9Z-2E2PN03               | 3                   | For 5.7 inch (3 pcs/pack)<br>(used to cover the front side of the operator interface)                                      | —                | —    | √           | √            | √            |
| Protective Sheet *1                                    | HG9Z-2D5PN05               | 5                   | For 5.7 inch (5 pcs/pack)<br>(used to protect the LCD)                                                                     | —                | —    | √           | √            | √            |
|                                                        | HG9Z-3D8PN02               | 2                   | For 8.4-inch (2 pcs/pack)                                                                                                  | —                | √    | —           | —            | —            |
|                                                        | HG9Z-3DA2PN02              | 2                   | For 10.4-inch (2 pcs/pack)                                                                                                 | —                | √    | —           | —            | —            |
|                                                        | HG9Z-4DCPN02               | 2                   | For 12.1 inch (2 pcs/pack)                                                                                                 | √                | —    | —           | —            | —            |
| Expansion Module Clamp *2                              | HG9Z-XJ3PN05               | 5                   | For installing the expansion modules on the<br>back of the operator interface (short). For total<br>width 17.6 to 41.1 mm. | √                | √    | √           | —            | —            |
|                                                        | HG9Z-XJ4PN05               | 5                   | For installing the expansion modules on the<br>back of the operator interface (long). For total<br>width 47.0 to 68.8 mm.  | √                | √    | √           | —            | —            |
|                                                        | HG9Z-XJ5PN05               | 5                   | For installing the expansion modules on the<br>back of the operator interface (XL). For total<br>width 70.5 to 92.3 mm.    | √                | √    | √           | —            | —            |
| L-shaped Terminal Block<br>Connector for I/O Module *3 | HG9Z-PMT10LPN02            | 2                   | For MicroSmart I/O Module (10-pole)<br>(2 pcs/pack)                                                                        | √                | √    | √           | —            | —            |
|                                                        | HG9Z-PMT11LPN02            | 2                   | For MicroSmart I/O Module (11-pole)<br>(2 pcs/pack)                                                                        | √                | √    | √           | —            | —            |
| Panel Mount Adaptor                                    | HG9Z-2A1                   | 1                   | Adaptor for mounting HG2G to the panel cut-<br>out of HG2F.                                                                | —                | —    | √           | √            | √            |
|                                                        | HG9Z-2A2                   | 1                   | Adaptor for mounting HG2G to 156 x 123.5<br>mm panel cut-out.                                                              | —                | —    | √           | √            | √            |
| User's Manual                                          | HG9Y-B1119                 | 1                   | English                                                                                                                    | √                | √    | √           | —            | —            |
|                                                        | HG9Y-B1701                 |                     |                                                                                                                            | —                | —    | —           | √            | √            |

\*1 The protective sheet is UV resistant, however, resistance against direct sunlight in outdoor usage is not guaranteed.  
Used to protect the display screen.

\*2 Use the expansion module clamp when using expansion modules.  
Order the module clamp by referring to the width of the module shown in the dimensions of each module.

\*3 See Cat No. P1373 or instruction manual (<http://www.idec.com/language/>) for details on MicroSmart expansion modules.

## Maintenance Parts

| Name                                                            | Part No.<br>(Ordering No.) | Package<br>Quantity | Description                                         | Applicable Model |      |             |              |              |
|-----------------------------------------------------------------|----------------------------|---------------------|-----------------------------------------------------|------------------|------|-------------|--------------|--------------|
|                                                                 |                            |                     |                                                     | HG4G             | HG3G | HG2G<br>-5F | HG2G<br>-5TT | HG2G<br>-5TN |
| Mounting Clip                                                   | SLD-K02PN10                | 10                  | Four clips are supplied.                            | —                | —    | √           | √            | √            |
|                                                                 | HG9Z-4K2PN04               | 4                   | Four clips are supplied.                            | √                | √    | —           | —            | —            |
| Serial Interface Connector<br>(Detachable 9-pin terminal block) | HG9Z-XT09V                 | 1                   | One plug (terminal block type) is supplied.         | —                | —    | √           | √            | √            |
|                                                                 | HG9Z-XT09                  | 1                   | One plug (terminal block type) is supplied.         | √                | √    | —           | —            | —            |
| Replacement Battery                                             | HG9Z-XR1                   | 1                   | Lithium battery CR2032<br>(one battery is supplied) | √                | √    | √           | √            | √            |
| USB Cable Lock Pin                                              | HG9Z-XU1PN05               | 5                   | Used to lock USB cable (for USB2).                  | √                | √    | √           | √            | √            |

## MICROSmart Expansion Modules

### Input Modules

| Input              | Part No.<br>(Ordering No.) | Connector                | Dimensions<br>(L × W × H mm) | Consumption Current<br>(mA) |     |
|--------------------|----------------------------|--------------------------|------------------------------|-----------------------------|-----|
|                    |                            |                          |                              | 5V                          | 24V |
| 8 points/AC Input  | FC4A-N08A11                | Removable Terminal Block | 90.0 × 23.5 × 70.0           | 25                          | 0   |
| 8 points/DC Input  | FC4A-N08B1                 |                          | 90.0 × 23.5 × 70.0           | 25                          | 0   |
| 16 points/DC Input | FC4A-N16B1                 |                          | 90.0 × 23.5 × 70.0           | 40                          | 0   |
| 16 points/DC Input | FC4A-N16B3                 | MIL Connector            | 90.0 × 17.6 × 70.0           | 35                          | 0   |
| 32 points/DC Input | FC4A-N32B3                 |                          | 90.0 × 29.7 × 70.0           | 65                          | 0   |

### Output Modules

| Output                             | Part No.<br>(Ordering No.) | Connector                | Dimensions<br>(L × W × H mm) | Consumption Current<br>(mA) |     |
|------------------------------------|----------------------------|--------------------------|------------------------------|-----------------------------|-----|
|                                    |                            |                          |                              | 5V                          | 24V |
| 8 points/Relay Output              | FC4A-R081                  | Removable Terminal Block | 90.0 × 23.5 × 70.0           | 30                          | 40  |
| 16 points/Relay Output             | FC4A-R161                  |                          | 90.0 × 23.5 × 70.0           | 45                          | 75  |
| 8 points/Transistor Sink Output    | FC4A-T08K1                 |                          | 90.0 × 23.5 × 70.0           | 10                          | 20  |
| 8 points/Transistor Source Output  | FC4A-T08S1                 |                          | 90.0 × 23.5 × 70.0           | 10                          | 20  |
| 16 points/Transistor Sink Output   | FC4A-T16K3                 | MIL Connector            | 90.0 × 17.6 × 70.0           | 10                          | 40  |
| 16 points/Transistor Source Output | FC4A-T16S3                 |                          | 90.0 × 17.6 × 70.0           | 10                          | 40  |
| 32 points/Transistor Sink Output   | FC4A-T32K3                 |                          | 90.0 × 29.7 × 70.0           | 20                          | 70  |
| 32 points/Transistor Source Output | FC4A-T32S3                 |                          | 90.0 × 29.7 × 70.0           | 20                          | 70  |

### Combination I/O Modules

| Input/Output                                | Part No.<br>(Ordering No.) | Connector                    | Dimensions<br>(L × W × H mm) | Consumption Current<br>(mA) |     |
|---------------------------------------------|----------------------------|------------------------------|------------------------------|-----------------------------|-----|
|                                             |                            |                              |                              | 5V                          | 24V |
| 4 points/DC Input<br>4 points/Relay Output  | FC4A-M08BR1                | Removable Terminal Block     | 90.0 × 23.5 × 70.0           | 25                          | 20  |
| 16 points/DC Input<br>8 points/Relay Output | FC4A-M24BR2                | Non-removable Terminal Block | 90.0 × 39.1 × 70.0           | 65                          | 45  |

- IDEC PLC MicroSmart expansion I/O modules can be used.

<Maximum number of expansion I/O modules>

- HG4G/3G: Up to 4 modules (Note)
- HG2G-5F: Up to 2 modules

- Only one FC4A-M24BR2 module can connect to one main unit.

- Use the expansion module clamp when using expansion modules.

Order the module clamp by referring to the width of the module shown in the dimensions of each module.

Note: When connecting more than 3 expansion modules to the HG4G/3G, note the limits shown below:

<Limits>

Current flow rate at 5V: 130 mA max. Total width: 92.3 mm max.

Current flow rate at 24V: 150 mA max.

- See catalog or instruction manual (<http://www.idec.com/language/>) for details on MicroSmart expansion modules.



# HG4G/3G/2G Operator Interface

## Compatible PLCs

| Manufacturer            | Series                                                     |
|-------------------------|------------------------------------------------------------|
| IDEC                    | MICROSmart                                                 |
|                         | SmartAXIS Pro/Lite                                         |
|                         | MICROSmart (Ethernet)                                      |
|                         | SmartAXIS Pro/Lite (Ethernet)                              |
| Mitsubishi              | MELSEC-A (link unit)                                       |
|                         | MELSEC-QnA (link unit)                                     |
|                         | MELSEC-Q (link unit)                                       |
|                         | MELSEC-Q (Ethernet)                                        |
|                         | MELSEC-FX                                                  |
| OMRON                   | MELSEC-FX (Ethernet)                                       |
|                         | SYSMAC-C                                                   |
|                         | SYSMAC-CS                                                  |
|                         | SYSMAC-CJ1                                                 |
|                         | SYSMAC-CJ2                                                 |
|                         | SYSMAC-CP1                                                 |
| Allen-Bradley<br>(Note) | SYSMAC (Ethernet)                                          |
|                         | PLC-5 (Half Duplex)                                        |
|                         | SLC-500 (Half Duplex)                                      |
|                         | MicroLogix (Full Duplex)                                   |
|                         | ControlLogix (Full Duplex)                                 |
|                         | CompactLogix (Full Duplex)                                 |
|                         | FlexLogix (Full Duplex)                                    |
|                         | ControlLogix (Ethernet/IP, Ethernet/IP (Logix Native Tag)) |
|                         | CompactLogix (Ethernet/IP, Ethernet/IP (Logix Native Tag)) |
|                         | PLC-5 (Ethernet/IP)                                        |
| SIEMENS                 | SLC 500 (Ethernet/IP)                                      |
|                         | MicroLogix (Ethernet/IP)                                   |
|                         | S7-200                                                     |
|                         | S7-300 (connects to CPU)                                   |
|                         | S7-300 (link unit)                                         |
| S7-400                  | S7-400                                                     |
|                         | S7-1200 (Ethernet)                                         |
| Keyence                 | KV-700/1000/3000/5000                                      |
|                         | KV Nano                                                    |
|                         | KZ                                                         |
|                         | KV                                                         |
|                         | KV (Ethernet)                                              |
| Hitachi                 | S10mini                                                    |
|                         | S10V                                                       |
| JTEKT                   | TOYOPUC-PC2J                                               |
|                         | TOYOPUC-PC3J                                               |
| Toshiba Machine Works   | TC200                                                      |
|                         | TCmini                                                     |
| GE Fanuc Automation     | Series90-30                                                |
|                         | VersaMax                                                   |

| Manufacturer                         | Series               |
|--------------------------------------|----------------------|
| Schneider                            | Twido                |
|                                      | Modbus RTU Master    |
|                                      | Modbus ASCII Master  |
|                                      | Modbus TCP Client    |
| Modicon                              | Modbus TCP Server    |
|                                      | Modbus RTU Slave     |
| Panasonic                            | FP Series            |
|                                      | MP                   |
| Yaskawa Electric                     | MP (Ethernet)        |
|                                      | DirectLOGIC 05       |
| Koyo                                 | DirectLOGIC 06       |
|                                      | DirectLOGIC 205      |
|                                      | KOSTAC SZ            |
|                                      | KOSTAC SU            |
|                                      | KOSTAC SU (Ethernet) |
| Fanuc                                | Power Mate           |
|                                      | Series               |
| Yokogawa Electric                    | FA-M3                |
|                                      | FA-M3 (Ethernet)     |
| Fuji Electric                        | FREX-PC              |
|                                      | MICREX-F             |
|                                      | MICREX-SX            |
|                                      | MICREX-SX (Ethernet) |
| Toshiba                              | PROSEC T Series      |
|                                      | V Series             |
| LS Industrial Systems                | MASTER-K             |
| VIGOR                                | VB                   |
|                                      | VH                   |
| Emerson                              | FloBoss              |
| Hitachi Industrial Equipment Systems | EH (Ethernet)        |

Note: HG2G-5TT and HG2G-5TN cannot communicate using Ethernet/IP (Logix Native Tag)

- The compatible PLC information is for reference only (except for IDEC PLCs), and IDEC does not guarantee the operation of any other manufacturers' PLC. When using other manufacturers' PLCs, read their specifications and instruction manual carefully. The PLC must be operated correctly under the user's responsibility.
- The company names and product names are registered trademarks or brand names.

An updated listing of compatible PLCs can be found at the following website.  
<http://www.idec.com/oi/drivers>

Specifications and other descriptions in this brochure are subject to change without notice.



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