IDEC

| 12.1 inch | 10.4 inch | 8.4 inch | 5.7 inch |

New

HG4G/3G/2G
Operator Interface

Bright and true-to-life color displays

HG3G (10.4 inch, dark gray, vertical)

HG4G (12.1 inch, dark gray)

HG3G (8.4 inch, light gray)

HG2G (5.7 inch, light gray)

IDEC CORPORATION

(110706)

HG Series Operation Panel

Operation Status

Production Status

Target Quantity
35000
Manufactured
26879
Failed
14

Status

Reset

Run

Production Status

Product Selection

Product "X" Manufactured
1234

Product "Y" Manufactured
12345

Parts Supply

Pallet B

Pallet C

Pallet D

Production History

Alarm Settings

Maintenance

Manual

Detail Settings

HG Operation Panel
Operation Status   Parts Supply

CONVEYOR LINE

HG4G
12.1 inch

Vertical OK

2

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 (12.1-inch: 550 cd/m^2) 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.

HG3G
10.4 inch

Vertical OK

HG3G
8.4 inch

Vertical OK

HG2G
5.7 inch

Vertical OK

High Performance model only

Designed to perform

LED Backlight

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

A bright LED backlight provides a vivid display in well-lit surroundings. The brightness of the backlight can be adjusted.
Long 60,000-hour service life.

HG4G (12.1 inch)
550 cd/m²

HG3G (10.4 inch)
700 cd/m²
(8.4 inch)
600 cd/m²

HG2G (5.7 inch)
800 cd/m²
∗HG2G-5F

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

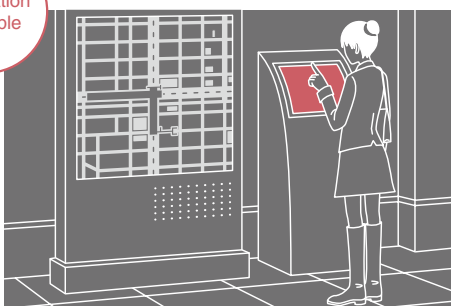The brightness of the backlight can be adjusted according to surrounding conditions (day/night).

Application Example

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.
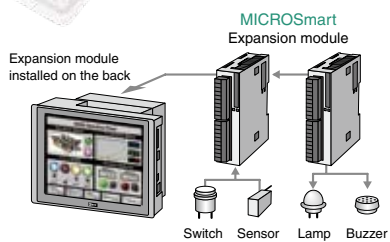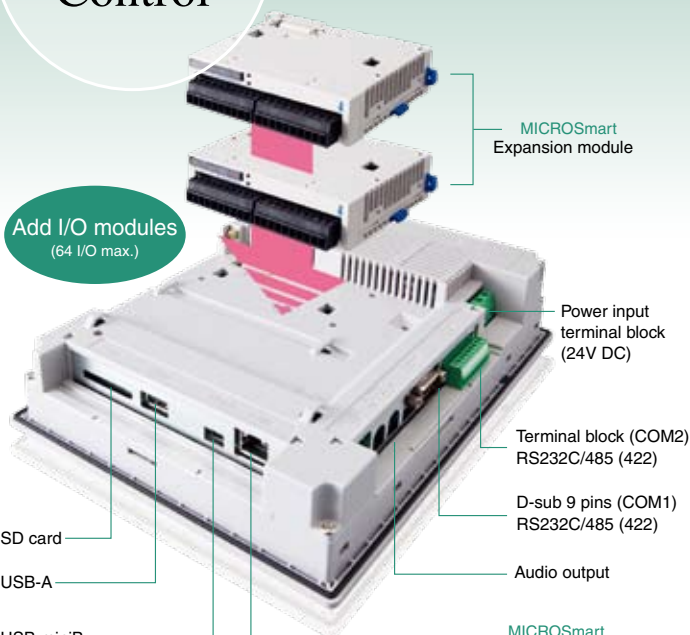
Control

Simple control
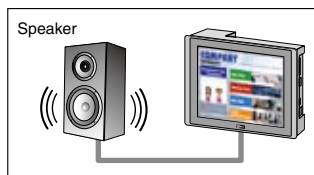
Simple I/O Control

MICROSmart
Expansion module

Add I/O modules
(64 I/O max.)

Power input terminal block (24V DC)

Terminal block (COM2) RS232C/485 (422)

D-sub 9 pins (COM1) RS232C/485 (422)

SD card

USB-A

USB-miniB (PC connection)

Ethernet

Audio output

MICROSmart
Expansion module

Expansion module installed on the back

Switch Sensor Lamp Buzzer

Ethernet | Remote data maintenance

Project data can be downloaded and uploaded remotely via Ethernet. One HG can communicate with two or more PLCs, enabling integration of a network (PC) and a control network (PLC) systems.

Ethernet

Smart Phone

PLC   PLC
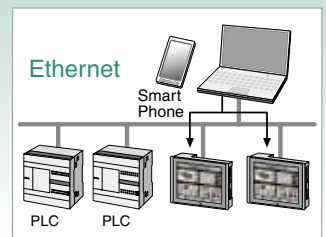
O/I Link | IDEC high-speed 115.2 kbps O/I Link communication

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

Master   Slave 1   Slave 2

Host   O/I Link   Slave 15 max.

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 can connect up to 2 expansion modules.
∗For compatible expansion modules, see "Expansion Modules" on page 25.

Audio Output | Sound file (30 sec max.)

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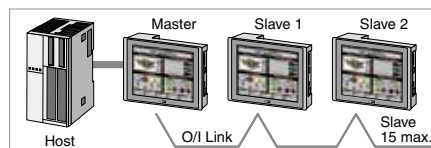
Speaker

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
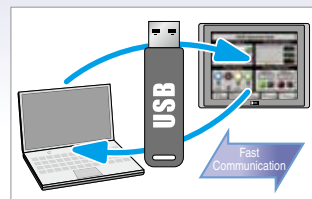
Fast & Easy

3-sec startup

Fast start-up

High Speed CPU

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

Fast USB2.0 communication

High Speed Data

Project data can be downloaded and uploaded easily using a USB flash drive.

Simple operation

USB flash drive enables easy data transfer.

USB Flash Drive

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.

Easy data maintenance, without opening the control cabinet.

Front Panel Maintenance

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 "Compatible PLCs" on the back page.

USB Memory or PC

Convenient SD card slot
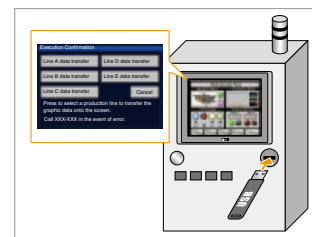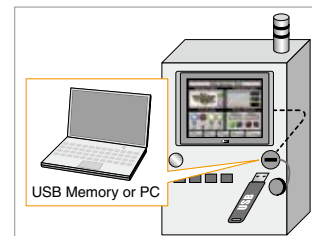
SD Card

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.
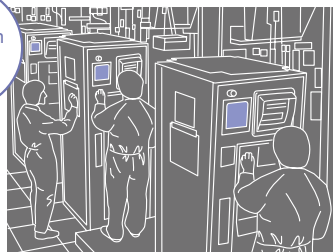
Application Example

USB printer compatible

Pict Bridge

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

USB cable

Printer

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(110706)

OI Touchscreen Programming Software

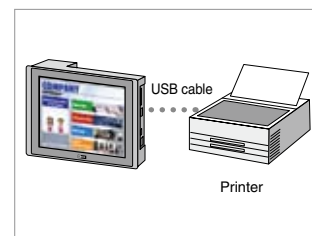**Wind O/I-NV2** — Automation Organizer

Operates on 64-bit Windows 7, providing easy programming
with fewer clicks required, enabling efficiency.
The workspace is flexible and easy to use.

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 7 (32-bit/64-bit), Windows Vista (32-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 3.5
- 512 MB RAM (1 GB recommended)
- 800 MB hard disk space
- Screen resolution of 1024 x 768 or more
- Mouse, CD-ROM drive, administrator account

*Windows is a registered trademark of Microsoft Corporation, USA and other countries.
*Wind O/I-NV2 is included in IDEC's package software "Automation Organizer".

(110706)

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.

Displays images on the screen from the camera.

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

∗available soon (Note)
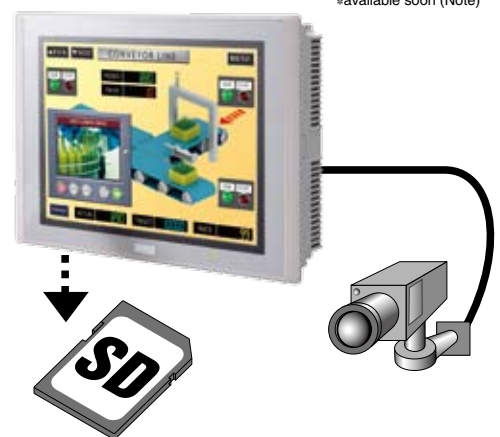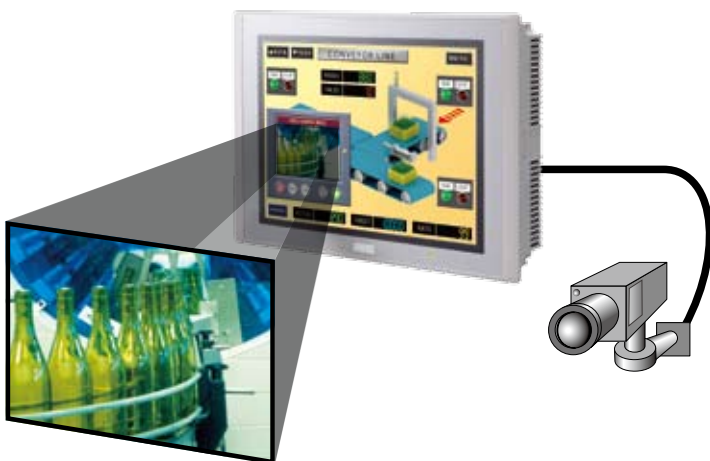
Video Play Replays video images and audio from an SD card.

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 and audio

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.
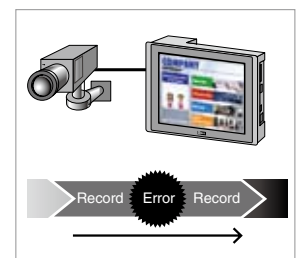
Record Error Record

Note: Programming software with video recording function will be available via free upgrade.
For the latest information, visit our website at www.idec.com

(110706)

Application Examples

1 Find out the cause of an error

*available soon (Note)

Error

Confirm images of an error afterwards

Video playback

The images make it easy to clear the error

Error

Video images recorded before and after an error are displayed.
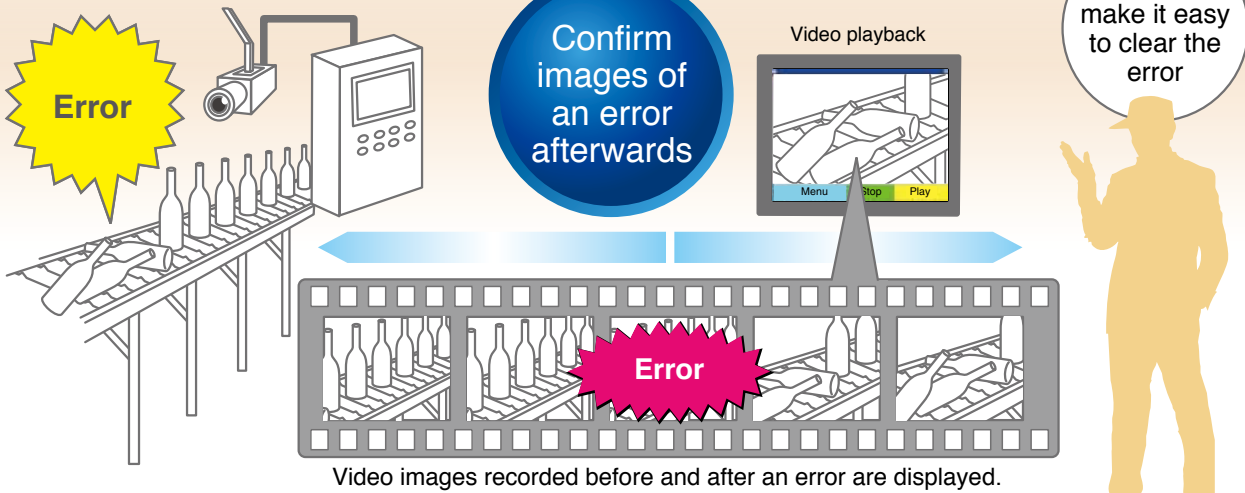
2 On-site troubleshooting

Video manuals are useful for troubleshooting

Error

Error is displayed

Video manual is displayed on the screen

3 Ideal for displaying promotional messages

Clear display and sound

Speaker

(110706)

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Human-machine interface expands IDEC

Easy troubleshooting using video images

Complicated maintenance can be carried out

Video camera	VIDEO IN
Microphone	AUDIO IN
Speaker	AUDIO OUT
SD card SDHC card	SD
PC — Printer	USB-miniB
Barcode reader — USB	USB-A

HG Series Operation Status
Parts Supply

Lineup

HG series Operator Interface

High Performance

HG4G	HG3G	HG2G-5F
12.1 inch	**10.4** inch **8.4** inch	**5.7** inch

HG4G

New

314 × 240 × 54.1 mm
SVGA (800 × 600)
TFT65,536 colors

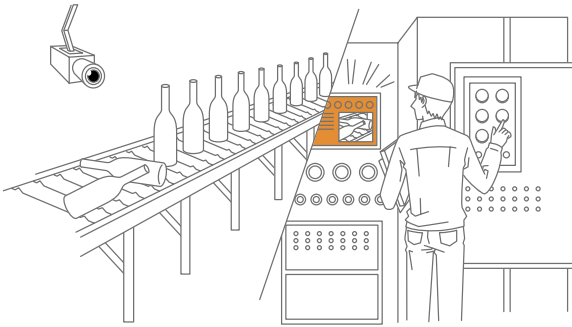|			
Bright 550 cd/m²	LED 60,000 Hours	48-level Brightness Adjustment	Graphics
Stroke Fonts	Serial Interface	Ethernet	USB mini-B
USB A	4 Expansion Modules	Audio Output	O/I Link
Cyclic Script	SD Card	USB Flash Drive	High Speed CPU
High Speed Data	User Memory 12MB	Pict Bridge	Front Panel Maintenance
Audio Input	Video Input	Video Play	Video Recording
Voltage 24V DC	Vertical OK	Bezel Color	Dark gray

HG3G

*New** Bright 700 cd/m²
*New** Bright 600 cd/m²

270 × 212 × 52.7 mm
SVGA (800 × 600)
TFT65,536 colors

231 × 176 × 54.4 mm
SVGA (800 × 600)
TFT65,536 colors

LED 60,000 Hours	48-level Brightness Adjustment	Graphics	Stroke Fonts	Serial Interface
Ethernet	USB mini-B	USB A	4 Expansion Modules	Audio Output
O/I Link	Cyclic Script	SD Card	USB Flash Drive	High Speed CPU
High Speed Data	User Memory 12MB	Pict Bridge	Front Panel Maintenance	Audio Input
Video Input	Video Play	Video Recording	Voltage 24V DC	Vertical OK

Bezel Color — Light gray — Dark gray

* New multimeda functions

HG2G-5F

New

167.2 × 134.7 × 54.4 mm
VGA (640 × 480)
TFT65,536 colors

Bright 800 cd/m²	LED 50,000 Hours	48-level Brightness Adjustment	Graphics
Stroke Fonts	Serial Interface	Ethernet	USB mini-B
USB A	2 Expansion Modules	O/I Link	Cyclic Script
SD Card	USB Flash Drive	High Speed CPU	High Speed Data
User Memory 12MB	Pict Bridge	Front Panel Maintenance	Voltage 24V DC
Vertical OK			

Bezel Color — Light gray — Dark gray — Silver

network control

Remote control from a distance

Combine networks for multiple uses

Ethernet
- PC remote maintenance
- PLC
- PLC (Ethernet I/P)

Seraial Communication RS232C/ RS485 (422)
- PLC
- HG
- PC
- Temperature controller
- Single-board computer

Operation Panel
Production Status
Product Selection
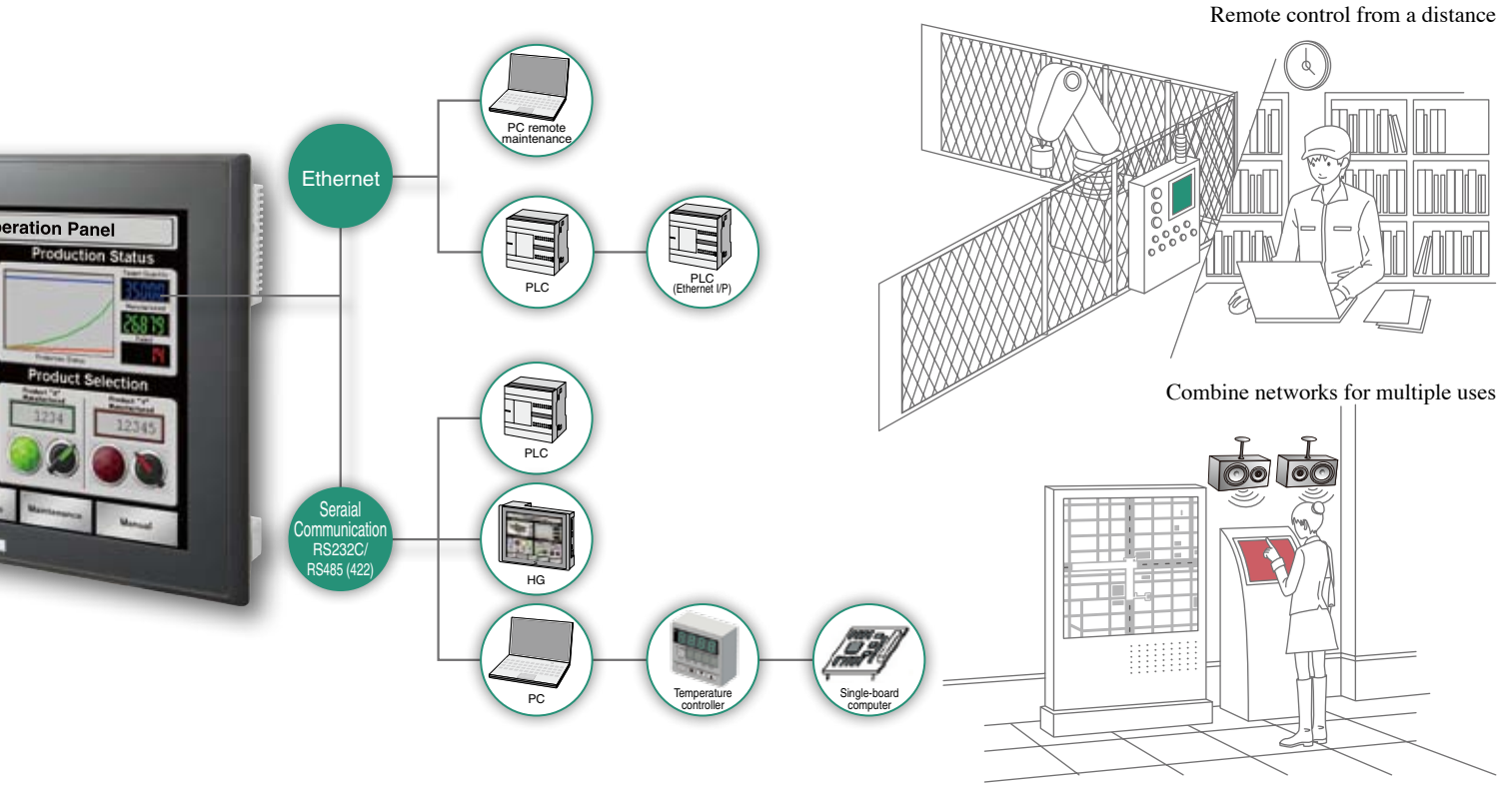1234 12345

Basic	Compact

HG2G-5S
5.7 inch

New

167.2 × 134.7 × 40.9 mm
QVGA (320 × 240)
TFT256 colors

- Bright 400 cd/m²
- LED 50,000 Hours
- 32-level Brightness Adjustment
- Serial Interface
- Ethernet
- USB mini-B
- O/I Link
- User Memory 2MB
- Voltage 12/24V DC

Bezel Color — Light gray, Dark gray, Silver

HG2G-S
5.7 inch

167.2 × 134.7 × 40.9 mm
QVGA (320 × 240)
STN Monochrome (15 shades)

- Bright 500 cd/m²
- CCFL 75,000 Hours
- Serial Interface
- Ethernet
- O/I Link
- User Memory 2MB
- Voltage 12 V DC
- Voltage 24 V DC

Bezel Color — Light gray, Dark gray, Silver

HG1F
4.6 inch

147 × 76 × 39.3 mm
(300 × 1000)
STN Monochrome (16 shades)

- Bright 500 cd/m²
- Serial Interface
- User Memory 1MB
- Voltage 24V DC

Bezel Color — Light gray, Dark gray, Silver

∗ See catalog no. EP1128 for details.

Sharp & Vivid — Bright, LED, Brightness Adjustment, Graphics, Stroke Fonts ≫ Page 4

Fast & Easy — SD Card, USB Flash Drive, High Speed CPU, High Speed Data, User Memory, Pict Bridge, Front Panel Maintenance ≫ Page 6

Simple Control — Serial Interface, Ethernet, USB mini-B, USB A, Expansion Module, Audio Output, O/I Link, Cyclic Script ≫ Page 5

Multimedia — Audio Input, Video Input, Video Play, Video Recording ≫ Page 8

Automation Organizer
WindO/I-NV2 OI Touchscreen Programming Software ≫ Page 7

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HG4G Operator Interface

12.1 inch

Compact housing with a versatile interface.
High performance operator interface with multimedia functions.

Bright 550 cd/m²	TFT 65,536 Colors	LED 60,000 Hours	SVGA 800×600
48-level Brightness Adjustment	Graphics	Stroke Fonts	Serial Interface
Ethernet	USB mini-B	USB A	4 Expansion Modules
Audio Output	O/I Link	Cyclic Script	SD Card
USB Flash Drive	High Speed CPU	High Speed Data	User Memory 12MB
Pict Bridge	Front Panel Maintenance	Audio Input	Video Input
Video Play	Video∗ Recording	Voltage 24V DC	Vertical OK

Bezel Color — Dark gray

∗ Video recording function available soon (Note)

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

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)

Note: Programming software with video recording function will be available via free upgrade.
For the latest information, visit our website at www.idec.com

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 COM2 LAN USB1 USB2 SD Memory Card	VIDEO IN AUDIO IN AUDIO OUT	Dark gray	HG4G-CJT22MF-B	Safety Standards: UL508 CSA C22.2 No.142
			AUDIO OUT	Dark gray	HG4G-CJT22TF-B	Ship Classification Standards: ABS, LR, NK

∗DNV approval pending
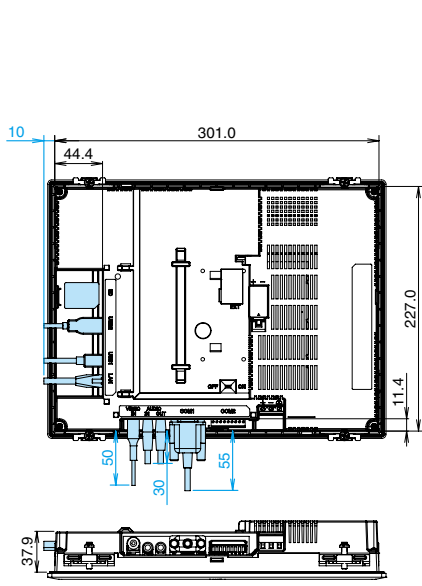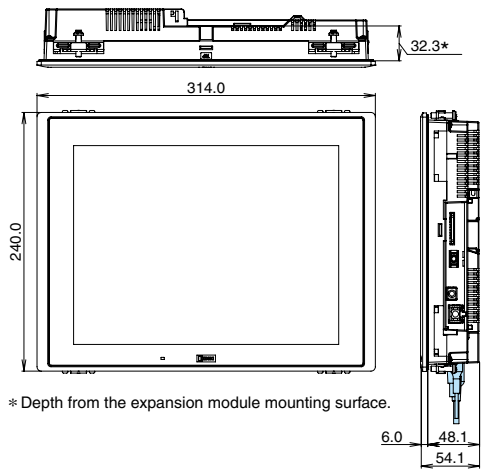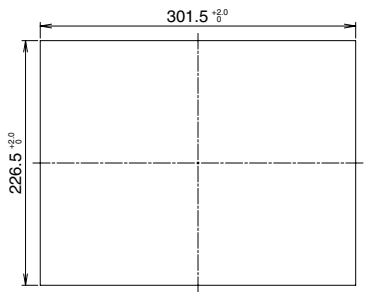
Dimensions

314.0
240.0
32.3∗
6.0
48.1
54.1

∗ Depth from the expansion module mounting surface.

10
44.4
301.0
227.0
11.4
50
30
55
37.9

Panel Cut-out

301.5 $^{+2.0}_{0}$
226.5 $^{+2.0}_{0}$

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.

IDEC

General Specifications

Rated Power Voltage	24V DC
Power Voltage Range	20.4 to 28.8V DC
Power Consumption	27W maximum 18W 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
Insulation Resistance	10 MΩ minimum between power and FG terminals (500V DC megger)
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, 8.4 to 150 Hz, acceleration 9.8 m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes
Noise Immunity	Fast transient/burst test, Power terminals: ±2 kV, Communication line: ±1 kV (IEC/EN61131-2: 2007)
Electrostatic Discharge	ESD-3 (RH-1) Level 3 (Contact ±6 kV, air ±8 kV) (IEC/EN61131-2: 2007)
Corrosion Immunity	Free from corrosive gases
Mounting	Panel mounting
Degree of Protection	IP66 (IEC 60529) (front part when mounted) ∗
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.
∗ Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.

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		60,000 hours minimum ∗1
Brightness		550 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) 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	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, 2, 3, 4, and 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. 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 ±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/485 (422) 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
	Connector	D-sub 9-pin connector
Serial Interface (COM2)	Electrical Characteristics	EIA RS232C/485 (422) 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
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (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
	Ouput current	5V 130 mA 24V 150 mA
	Max. no. of units	4 units

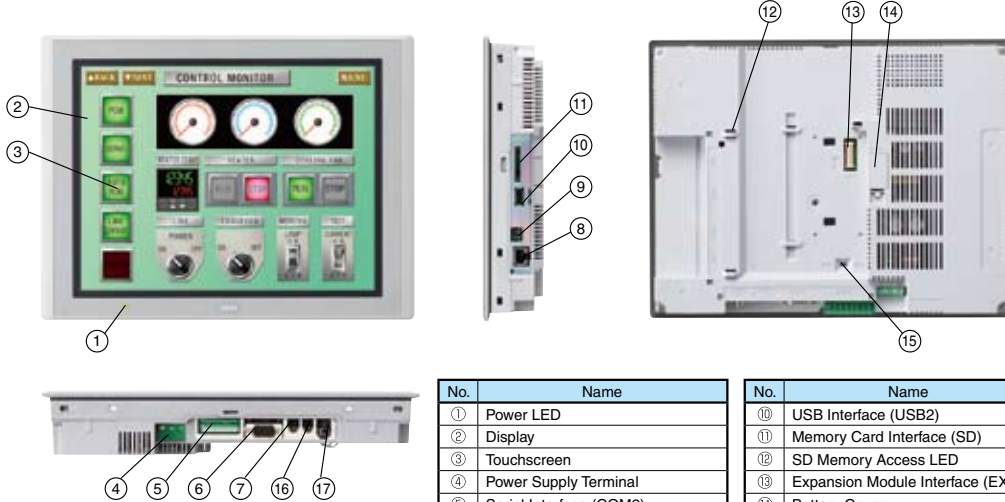Note: 187,500 bps is available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

HG3G Operator Interface

Excellent visibility by super-bright LED backlight.
700 cd/m² (10.4-inch)

Bright **700** cd/m²

TFT **65,536** Colors

LED **60,000** Hours

SVGA **800×600**

48-level Brightness Adjustment

Graphics

Stroke Fonts

Serial Interface

Ethernet

USB mini-B

USB A

4 Expansion Modules

Audio Output

O/I Link

Cyclic Script

SD Card

USB Flash Drive

High Speed CPU

High Speed Data

User Memory **12MB**

Pict Bridge

Front Panel Maintenance

Audio Input

Video Input

Video Play

Video Recording ∗

Voltage 24V DC

Vertical OK

Bezel Color

Light Gray   Dark gray

∗ Video recording function available soon (Note)

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

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)

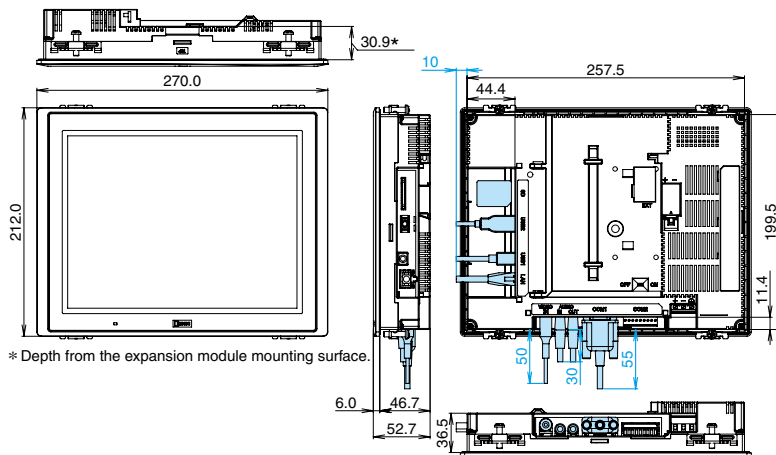| No.	Name
⑩	USB Interface (USB2)
⑪	Memory Card Interface (SD)
⑫	SD Memory Access LED
⑬	Expansion Module Interface (EXT)
⑭	Battery Cover
⑮	Terminal Resistor Switch
⑯	Audio Interface (AUDIO IN)
⑰	Video Interface (VIDEO IN)

Note: Programming software with video recording function will be available via free upgrade.
For the latest information, visit our website at www.idec.com

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 65,536 colors	Touch Switch (analog resistive)	COM1 COM2 LAN USB1 USB2 SD Memory Card	VIDEO IN AUDIO IN AUDIO OUT	Light gray	HG3G-AJT22MF-W	Safety Standards: UL508 CSA C22.2 No.142 CSA C22.2 No.213 ANSI/ISA-12.12.01-2007 Ship Classification Standards: ABS, LR, NK
				Dark gray	HG3G-AJT22MF-B	
			AUDIO OUT	Light gray	HG3G-AJT22TF-W	
				Dark gray	HG3G-AJT22TF-B	

∗DNV approval pending

Dimensions

270.0
212.0
30.9∗
10
44.4
257.5
199.5
11.4
50
30
55
6.0
46.7
52.7
36.5

∗ Depth from the expansion module mounting surface.

Panel Cut-out

258.0 +2.0/0
200.0 +2.0/0

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.

IDEC

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 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
Insulation Resistance	10 MΩ minimum between power and FG terminals (500V DC megger)
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, 8.4 to 150 Hz, acceleration 9.8 m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes
Noise Immunity	Fast transient/burst test, Power terminals: ±2 kV, Communication line: ±1 kV (IEC 61131-2: 2007)
Electrostatic Discharge	Contact ±6 kV, air ±8 kV (IEC 61131-2: 2007)
Corrosion Immunity	Free from corrosive gases
Mounting	Panel mounting
Degree of Protection	IP66 (IEC 60529) (front part when mounted) ∗ TYPE 4X
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.
∗ Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.

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	60,000 hours minimum ∗1
Brightness	700 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)
		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	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, 2, 3, 4, and 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. 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 ±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

	Electrical Characteristics	EIA RS232C/485 (422) compliant
Serial Interface (COM1)	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
	Connector	D-sub 9-pin connector
Serial Interface (COM2)	Electrical Characteristics	EIA RS232C/485 (422) 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
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (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
	Ouput current	5V 130 mA 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).
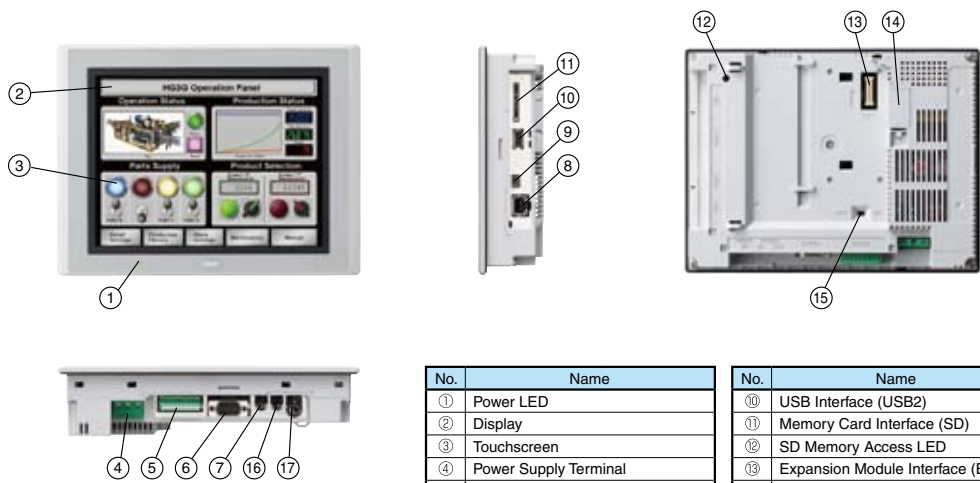
HG3G Operator Interface

Excellent visibility by super-bright LED backlight.
600 cd/m² (8.4-inch)

Bright **600** cd/m²
TFT **65,536** Colors
LED **60,000** Hours
SVGA **800×600**

48-level Brightness Adjustment
Graphics
Stroke Fonts
Serial Interface

Ethernet
USB mini-B
USB A
4 Expansion Modules

Audio Output
O/I Link
Cyclic Script
SD Card

USB Flash Drive
High Speed CPU
High Speed Data
User Memory **12MB**

Pict Bridge
Front Panel Mainte-nance
Audio Input
Video Input

Video Play
Video∗ Recording
Voltage 24V DC
Vertical OK

Bezel Color
Light Gray
Dark gray

∗ Video recording function available soon (Note)

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

Note: Programming software with video recording function will be available via free upgrade.
For the latest information, visit our website at www.idec.com

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)

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 COM2 LAN USB1 USB2 SD Memory Card	VIDEO IN AUDIO IN AUDIO OUT	Light gray	**HG3G-8JT22MF-W**	Safety Standards: UL508 CSA C22.2 No.142 CSA C22.2 No.213 ANSI/ISA-12.12.01-2007 Ship Classification Standards: ABS, LR, NR
				Dark gray	**HG3G-8JT22MF-B**	
			AUDIO OUT	Light gray	**HG3G-8JT22TF-W**	
				Dark gray	**HG3G-8JT22TF-B**	

∗DNV approval pending
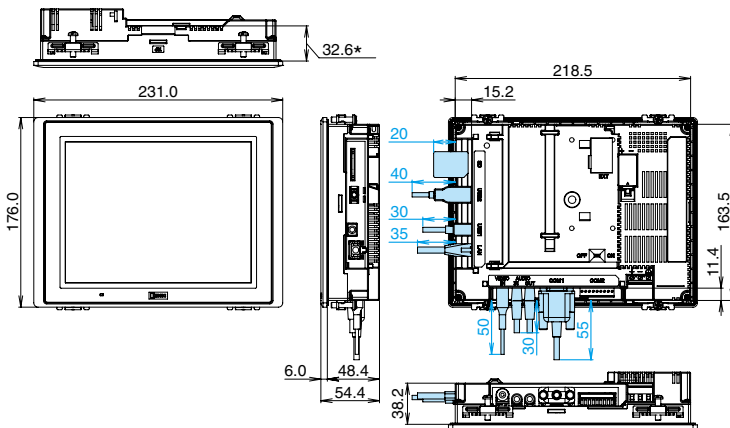
Dimensions

32.6∗
231.0
176.0

∗Depth from the expansion module mounting surface.

218.5
15.2
163.5
11.4
20
40
30
35
50
30
55
6.0
48.4
54.4
38.2

Panel Cut-out

219.0 +2.0/0
164.0 +2.0/0

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 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
Insulation Resistance	10 MΩ minimum between power and FG terminals (500V DC megger)
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, 8.4 to 150 Hz, acceleration 9.8 m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes
Noise Immunity	Fast transient/burst test, Power terminals: ±2 kV, Communication line: ±1 kV (IEC 61131-2: 2007)
Electrostatic Discharge	Contact ±6 kV, air ±8 kV (IEC 61131-2: 2007)
Corrosion Immunity	Free from corrosive gases
Mounting	Panel mounting
Degree of Protection	IP66 (IEC 60529) (front part when mounted) ∗ TYPE 4X
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.
∗ Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.

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	60,000 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 Ezuropean language ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI1251, 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	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, 2, 3, 4, and 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. 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 ±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/485 (422) 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
	Connector	D-sub 9-pin connector
Serial Interface (COM2)	Electrical Characteristics	EIA RS232C/485 (422) 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
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (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
	Ouput current	5V 130 mA 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).

Excellent visibility by super-bright LED backlight.
800 cd/m² (5.7-inch)

Bright 800 cd/m²	TFT 65,536 Colors	LED 50,000 Hours	SVGA 640×480
48-level Brightness Adjustment	Graphics	Stroke Fonts	Serial Interface
Ethernet	USB mini-B	USB A	2 Expansion Modules
O/I Link	Cyclic Script	SD Card	USB Flash Drive
High Speed CPU	High Speed Data	User Memory 12MB	Pict Bridge
Front Panel Maintenance	Voltage 24V DC	Vertical OK	

Bezel Color
Light Gray　Dark gray　Silver

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(Approval for HG2G operator interface only, excluding options or expansion modules.)
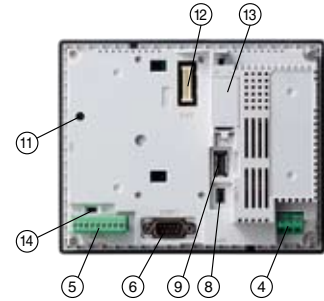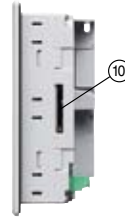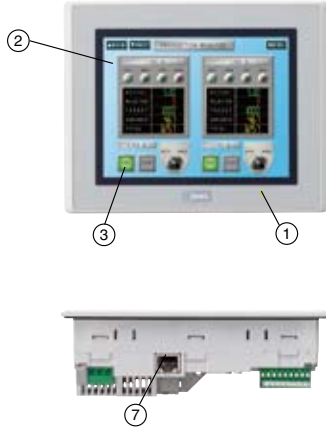
No.	Name
①	Power LED
②	Display
③	Touchscreen
④	Power Supply Terminal
⑤	Serial Interface (COM2)
⑥	Serial Interface (COM1)
⑦	Ethernet Interface (LAN)

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

HG2G Operator Interface

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

∗DNV approval pending

Dimensions

167.2　49.4　40　152.5
134.7
40
35
55
120.0
50
54.4　33.6∗　40
5.0

∗Depth from the expansion module mounting surface.

Panel Cut-out

153.0 $^{+2.0}_{0}$
121.0 $^{+2.0}_{0}$

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.

IDEC

General Specifications

Rated Power Voltage	24V DC
Power Voltage Range	20.4 to 28.8V DC
Power Consumption	19W maximum 10W 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
Insulation Resistance	10 MΩ minimum between power and FG terminals (500V DC megger)
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, 8.4 to 150 Hz, acceleration 9.8 m/s^2 10 cycles (100 minutes) on each of three mutually perpendicular axes
Shock Resistance	147 m/s^2, 11 ms 5 shocks on each of three mutually perpendicular axes
Noise Immunity	Fast transient/burst test, Power terminals: ±1 kV, Communication line: ±0.5 kV (IEC/EN61131-2: 2007)
Electrostatic Discharge	ESD-3 (RH-1) Level 3 (Contact ±6 kV, air ±8 kV) (IEC/EN61131-2: 2007)
Corrosion Immunity	Free from corrosive gases
Mounting	Panel mounting
Degree of Protection	IP66 (IEC 60529) (front part when mounted) ∗
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.
∗ Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.

Display Specifications

Display Color		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		50,000 hours ∗1
Brightness		800 cd/m^2 ∗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, 2, 3, 4, and 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

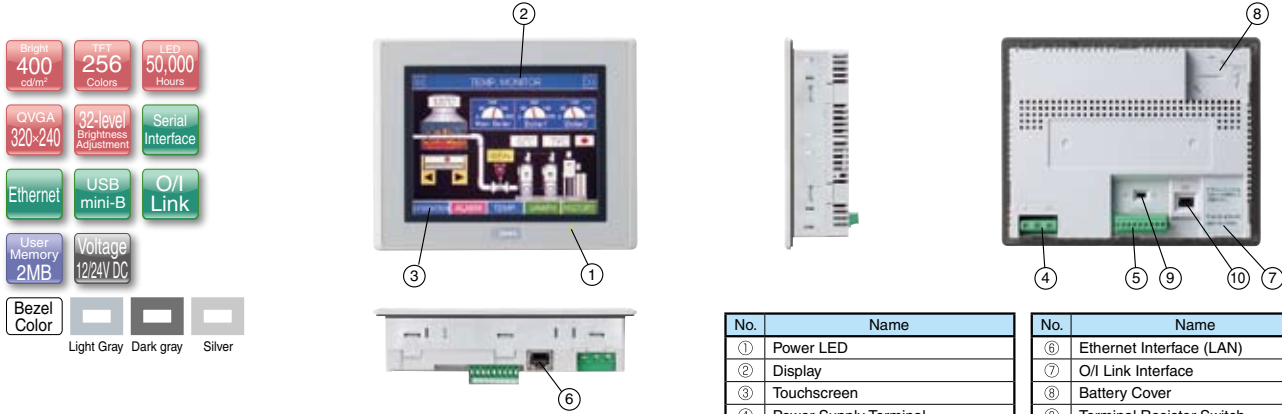|	
Screen Types	Base screen, popup screen, system screen
No. of Screens	Base screen: 3,000 max. Popup screen: 3,015 max.
User Memory	12 MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical 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 ±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/485 (422) 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
	Connector	D-sub 9-pin connector
Serial Interface (COM2)	Electrical Characteristics	EIA RS232C/485 (422) 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
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (10/100BASE-T) compliant
	Connector	Modular connector (RJ-45)
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
	Ouput current	5V 130 mA 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).

HG2G Operator Interface (Basic/Color)

<div align="right">5.7 inch</div>

Enhanced visibility and user-friendly features.
Stylish design with 3 different housing colors.
Super bright 400 cd/m² LCD.

Bright **400** cd/m²
TFT **256** Colors
LED **50,000** Hours
QVGA **320×240**
32-level Brightness Adjustment
Serial Interface
Ethernet
USB **mini-B**
O/I Link
User Memory **2MB**
Voltage **12/24V DC**

Bezel Color: Light Gray | Dark gray | Silver

c(UL)us LISTED CE

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

No.	Name
①	Power LED
②	Display
③	Touchscreen
④	Power Supply Terminal
⑤	Serial Interface 1

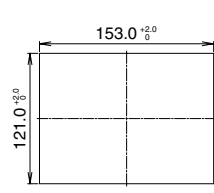| No.	Name
⑥	Ethernet Interface (LAN)
⑦	O/I Link Interface
⑧	Battery Cover
⑨	Terminal Resistor Switch
⑩	USB Interface

HG2G Operator Interface

Operating Voltage	Display Screen	Operation Style	Communication Interface	Ethernet Interface	Power Failure Backup Data	Housing/ Bezel Color	Part No. (Ordering No.)	Approvals
12/24V DC	5.7-inch TFT color LCD 256 colors	Touch Switch (analog resistive)	RS232C/485 (422) USB	With	With	Light gray	**HG2G-5ST22TF-W**	UL508 CSA C22.2 No.142
						Dark gray	**HG2G-5ST22TF-B**	
						Silver	**HG2G-5ST22TF-S**	
			RS232C/485 (422) USB	Without	Without	Light gray	**HG2G-5ST22VF-W**	
						Dark gray	**HG2G-5ST22VF-B**	
						Silver	**HG2G-5ST22VF-S**	

Dimensions

167.2 | 35.9 | 45 | 152.5 | 134.7 | 120.0 | 50 | 40.9 | 5.0 | 43.6

Panel Cut-out

153.0 $^{+2.0}_{0}$ | 121.0 $^{+2.0}_{0}$

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.

IDEC

General Specifications

Model	HG2G-5S (Color)
Rated Power Voltage	12V DC/24 V DC
Power Voltage Range	10.2 to 28.8V DC
Power Consumption	8W maximum
Allowable Momentary Power Interruption	10 ms maximum
Inrush Current	40A maximum
Dielectric Strength	500V AC, 10 mA, 1 minute between power and FG terminals
Insulation Resistance	50 MΩ minimum between power and FG terminals (500V DC megger)
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, 8.4 to 150 Hz, acceleration 9.8 m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes
Noise Immunity	Fast transient/burst test, Power terminals: ±2 kV, Communication line: ±1 kV (IEC/EN61000-4-4)
Electrostatic Discharge	ESD-3 (RH-1) Level 3 (Contact ±6 kV, air ±8 kV) (IEC/EN61000-4-2)
Corrosion Immunity	Free from corrosive gases
Mounting	Panel mounting
Degree of Protection	IP66 (IEC 60529) (front part when mounted) ∗
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.
∗ Protection degree of the front surface after mounting. Operation not guaranteed under certain environments.

Display Specifications

Model		HG2G-5S (Color)
Display		TFT Color LCD
Color/Shade		256 colors
Effective Display Area		115.2W × 86.4H mm
Display Resolution		320W × 240H pixels
View Angle		Right and left 70°, up 70°, down 60°
Contrast Adjustment		Adjustable from the front of the panel
Backlight		LED
Backlight Life		50,000 hours minimuml ∗1
Backlight Control		Automatic Off
Brightness		400 cd/m² ∗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) 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)
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 liness
Character Magnification		0.5, 1, 2, 3, 4, and 8 vertically and horizontally
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	0.2 to 0.8N
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. Popup screen:3,015 max.
User Memory	2 MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen, 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, Screen Script Command, Multi Command,Timer
Calendar ∗	Year, Month, Day, Hour, Min., Sec., Day of Week ±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)

∗ Not available for HG2G-5ST22VF.

Interface Specifications

Serial Interface (COM1)	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	D-sub 9-pin connector
Serial Interface (COM2) (Note 1)	Electrical Characteristics	EIA RS485 compliant
	Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note 2)
	Synchronization	Asynchronous
	Communication Method	Half or full duplex
	Control System	Hardware control or none
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (10/100BASE-T) compliant
	Connector	Connector (RJ-45)
USB Interface	Interface	USB 2.0
	Connector	USB Type Mini-B connector (Note)
O/I Link Interface	Electrical Characteristics	EIA RS485 compliant
	Transmission Speed	19200, 38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half duplex
	Connector	3-pin terminal block

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

HG2G Operator Interface (Basic/Monochrome)

Enhanced visibility and user-friendly features.
Stylish design with 3 different housing colors.
Super bright 400 cd/m² LCD.
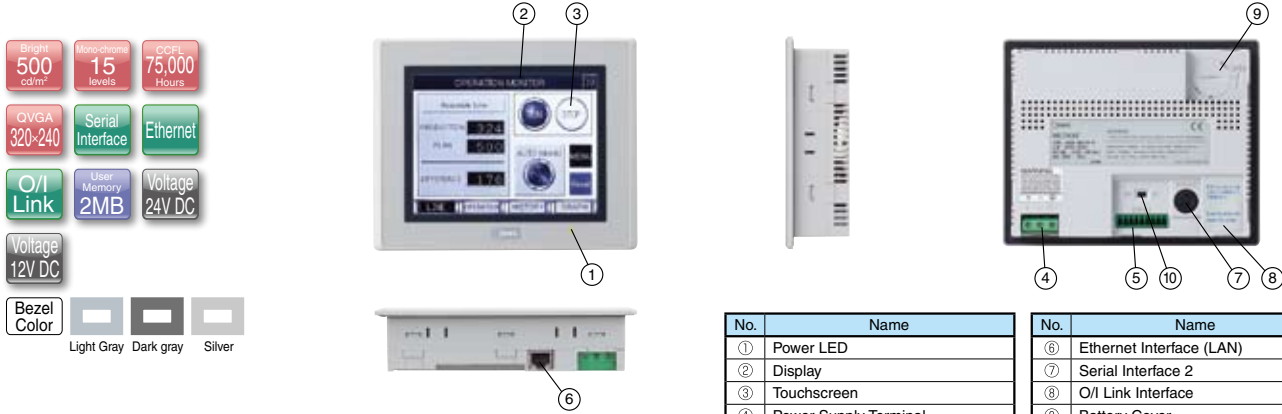
Bright 500 cd/m²
Mono-chrome 15 levels
CCFL 75,000 Hours
QVGA 320×240
Serial Interface
Ethernet
O/I Link
User Memory 2MB
Voltage 24V DC
Voltage 12V DC

Bezel Color
Light Gray | Dark gray | Silver

c(UL)us LISTED CE (Approval for HG2G operator interface only, excluding options or expansion modules.)

No.	Name
①	Power LED
②	Display
③	Touchscreen
④	Power Supply Terminal
⑤	Serial Interface 1

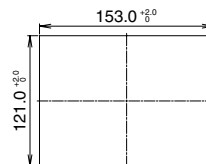| No.	Name
⑥	Ethernet Interface (LAN)
⑦	Serial Interface 2
⑧	O/I Link Interface
⑨	Battery Cover
⑩	Terminal Resistor Switch

HG2G Operator Interface

Operating Voltage	Display Screen	Operation Style	Communication Interface	Ethernet Interface	Power Failure Backup Data	Housing/Bezel Color	Part No. (Ordering No.)	Approvals
24V DC	5.7-inch STN monochrome LCD 15 shades	Touch Switch (analog resistive)	RS232C/485 (422)	With	With	Light gray	HG2G-SB22TF-W	UL508 UL1604 CSA C22.2 No.142 CSA C22.2 No.213
						Dark gray	HG2G-SB22TF-B	
						Silver	HG2G-SB22TF-S	
				Without		Light gray	HG2G-SB22VF-W	
						Dark gray	HG2G-SB22VF-B	
						Silver	HG2G-SB22VF-S	
12V DC	5.7-inch STN monochrome LCD 15 shades	Touch Switch (analog resistive)	RS232C/485 (422)	With		Light gray	HG2G-SB21TF-W	
						Dark gray	HG2G-SB21TF-B	
						Silver	HG2G-SB21TF-S	
				Without		Light gray	HG2G-SB21VF-W	
						Dark gray	HG2G-SB21VF-B	
						Silver	HG2G-SB21VF-S	

Dimensions

167.2
35.9 60 152.5
134.7 120.0 50 35.9 40.1 5.0

Panel Cut-out

153.0 +2 0
121.0 +2 0

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.

IDEC

General Specifications

Model	HG2G-S (monochrome)	
	24V DC	**12V DC**
Rated Power Voltage	24V DC	12V DC
Power Voltage Range	20.4 to 28.8V DC	10.2 to 18.0V DC
Power Consumption	10W maximum	
Allowable Momentary Power Interruption	10 ms maximum	
Inrush Current	20A maximum	40A maximum
Dielectric Strength	1,000V AC, 10 mA, 1 minute between power and FG terminals	
Insulation Resistance	50 MΩ minimum between power and FG terminals (500 V DC megger)	
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, 8.4 to 150 Hz, acceleration 9.8 m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes	
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes	
Noise Immunity	Fast transient/burst test, Power terminals: ±2 kV, Communication line: ±1 kV (IEC/EN61000-4-4)	
Electrostatic Discharge	ESD-3 (RH-1) Level 3 (Contact ±6 kV, air ±8 kV) (IEC/EN61000-4-2)	
Corrosion Immunity	Free from corrosive gases	
Mounting	Panel mounting	
Degree of Protection	IP65 (IEC 60529) (front part when mounted) ∗1, Type 13 ∗2	
Dimensions	167.2W ×134.7H ×40.9D 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 under certain environments.
∗2 Operation not guaranteed when used with certain types of oils.

Display Specifications

Model	HG2G-S (monochrome)	
Display	STN monochrome LCD	
Color/Shade	15 shades	
Effective Display Area	115.2W × 86.4H mm	
Display Resolution	320W × 240H pixels	
View Angle	Right and left 45°, up 25°, down 45°	
Contrast Adjustment	Adjustable from the front of the panel	
Backlight	CCFL	
Backlight Life	75,000 hours minimum ∗1	
Backlight Control	Automatic off	
Brightness	500 cd/m² ∗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)
		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)
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, 2, 3, 4, and 8 vertically and horizontally	
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	0.2 to 0.8N
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. Popup screen:3,015 max.
User Memory	2 MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen, 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, Timer, Screen Script Command, Multi Command
Calendar	Year, Month, Day, Hour, Min., Sec., Day of Week ±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 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	D-sub 9-pin connector
Serial Interface (COM2) (Note 1)	Electrical Characteristics	EIA RS485 compliant
	Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps (Note 2)
	Synchronization	Asynchronous
	Communication Method	Half or full duplex
	Control System	Hardware control or none
	Connector	Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface	IEEE802.3 (10/100BASE-T) compliant
	Connector	Connector (RJ-45)
USB Interface	Interface	USB 2.0
	Connector	USB Type Mini-B connector (Note 3)
O/I Link Interface	Electrical Characteristics	EIA RS485 compliant
	Transmission Speed	19200, 38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half duplex
	Connector	3-pin terminal block

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

IDEC

Options

Name	Part No. (Ordering No.)	Package Quantity	Description	Applicable Model				
				HG4G	HG3G	HG2G-5F	HG2G-5S	HG2G-S
Application Software	SW1A-W1C	1	Automation Organizer	√	√	√	√	√
USB Maintenance Cable (2m)	HG9Z-XCM22		Dsub 9-pin socket *1	–	–	–	–	√
	HG9Z-XCM42	1	USB Cable USB-miniB	√	√	√	√	–
PLC Connection Cable For IDEC MicroSmart (5m)	HG9Z-XC295	1	Mini DIN 8-pin (Dsub 9-pin)	√	√	√	–	–
PLC Connection Cable For Mitsubishi FX series (5m)	HG9Z-XC305	1	Mini DIN 8-pin (Dsub 9-pin)	√	√	√	–	–
PLC Connection Cable For Mitsubishi Q series (5m)	HG9Z-XC315	1	Mini DIN 6-pin (Dsub 9-pin)	√	√	√	–	–
PLC Connection Cable For IDEC MicroSmart (5m)	HG9Z-XC275	1	Mini DIN 8-pin (loose wire)	√	√	√	√	√
PLC Connection Cable For IDEC MicroSmart (2.4m)	FC2A-KP1C	1	Mini DIN 8-pin (loose wire)	√	√	√	√	√
USB panel-mount extension cable (1m)	HG9Z-XCE11	1	For USB-A port	√	√	√	–	–
	HG9Z-XCE21	1	For USB-mini B port	√	√	√	√	–
Connector Conversion Cable (16 cm)	HG9Z-XCT11	1	To convert from D-sub 25-pin to 9-pin (used when replacing from HG3F/4F to HG3G/4G)	√	√	√	–	–
Memory Card	HG9Z-XMS2	1	SD Memory Card (2GB)	√	√	√	–	–
Protective Cover	HG9Z-2E2PN03	3	For 5.7 inch (3 pcs/pack) (used to cover the front side of the operator interface)	–	–	√	√	√
Protective Sheet *2	HG9Z-2D5PN05	5	For 5.7 inch (5 pcs/pack)	–	–	√	√	√
	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 *3	HG9Z-XJ3PN05	5	For installing the expansion modules on the back of the HG2G-5F/3G/4G (short). For total width 17.6 to 41.1 mm.	√	√	√	–	–
	HG9Z-XJ4PN05	5	For installing the expansion modules on the back of the HG2G-5F/3G/4G (long). For total width 47.0 to 68.8 mm.	√	√	√	–	–
	HG9Z-XJ5PN05	5	For installing the expansion modules on the back of the HG2G-5F/3G/4G (XL). For total width 70.1 to 93.9 mm.	√	√	√	–	–
L-shaped Terminal Block Connector for I/O Module *4	HG9Z-PMT10LPN02	2	For MicroSmart I/O Module (10-pole) (2 pcs/pack)	√	√	√	–	–
	HG9Z-PMT11LPN02	2	For MicroSmart I/O Module (11-pole) (2 pcs/pack)	√	√	√	–	–
O/I Link Unit	HG9Z-2G1	1	Communication unit for O/I link	–	–	–	√	√
Panel Mount Adaptor	HG9Z-2A1	1	Adaptor for mounting HG2G to the panel cut-out of HG2F.	–	–	√	√	√
	HG9Z-2A2	1	Adaptor for mounting HG2G to 156 x 123.5 mm panel cut-out.	–	–	√	√	√
User's Manual	HG9Y-B1119	1	English	√	√	√	√	√

*1 Computer link cable (FC2A-KC4C) for IDEC's PLC can also be used.
*2 The protective sheet is UV resistant, however, resistance against direct sunlight in outdoor usage is not guaranteed.
   Used to protect the display screen.
*3 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 HG3G/4G, 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.
*4 See Cat No. P1373 or instruction manual for details on MicroSmart expansion modules.

Maintenance Parts

Name	Part No. (Ordering No.)	Package Quantity	Description	Applicable Model				
				HG4G	HG3G	HG2G-5F	HG2G-5S	HG2G-S
Mounting Clip	SLD-K02PN10	10	Four clips are supplied.	–	–	√	√	√
	HG9Z-4K2PN04	4	Four clips are supplied.	√	√	–	–	–
Host Communication Plug	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 (one battery is supplied)	√	√	√	√	√
USB Cable Lock Pin	HG9Z-XU1PN05	5	Used to lock USB cable (for USB2).	√	√	√	–	–

Expansion Modules

Input Modules

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

- 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 HG3G/4G, 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 Cat No. P1373 or instruction manual for details on MicroSmart expansion modules.

HG4G/3G/2G Operator Interface

Compatible PLCs

Manufacturer	Series	HG4G HG3G HG2G-5F	HG2G-S HG2G-5S
IDEC	MICROSmart	√	√
	MICROSmart Pentra	√	√
Mitsubishi	MELSEC-A (link unit)	√	√
	MELSEC-A (connects to CPU)	—	—
	MELSEC-QnA	√	√
	MELSEC-Q (link unit)	√	√
	MELSEC-Q (Ethernet)	√	√
	Q02CPU-A mode	—	—
	MELSEC-FX	√	√
OMRON	SYSMAC-C	√	√
	SYSMAC-CS1	√	√
	SYSMAC-CJ1	√	√
	SYSMAC-CJ2	√	√
	SYSMAC-CP1H		
Allen-Bradley	PLC-5	—	√
	SLC-500 (Half Duplex)		
	MicroLogix (Full Duplex)	√	√
	ControlLogix	√	√
	CompactLogix		
	FlexLogix		
	ControlLogix (Ethernet/IP)	√	√
	CompactLogix (Ethernet/IP)		
	PLC-5 (Ethernet/IP)		
	SLC 500	√	√
	MicroLogix		
SIEMENS	S7-200	√	√
	S7-300 (connects to CPU)	√	√
	S7-300 (link unit)	√	√
	S7-400		
Keyence	KV-700 KV-1000	√	√
	KZ	—	√
	KV		
	KV (Ethernet)	√	√

Manufacturer	Series	HG4G HG3G HG2G-5F	HG2G-S HG2G-5S
SHARP	New Satellite JW	—	√
HITACHI	S10mini	—	√
	S10V		
JTEKT	TOYOPUC-PC2J	√	√
	TOYOPUC-PC3J		
Toshiba Machine Works	TC200	—	√
	TCmini		
GE Fanuc Automation	Series 90-30	√	√
	VersaMax		
Schneider	Twido	√	√
Modicon	Momentum	√	√
	MODBUS/TCPServer	√	√
Panasonic	FP Series	√	√
YASKAWA Electric	Machine Controller	√	√
Koyo	DirectLOGIC 05	√	√
	DirectLOGIC 06		
	DirectLOGIC 205		
	KOSTAC SZ	√	√
	KOSTAC SU		
	KOSTAC SU (Ethernet)	√	√
FANUC	Power Mate	√	√
	Series		
Yokogawa Electric	FACTORY ACE	√	√
Fuji Electric	FREX-PC	√	√
	MICREX-F	√	√
TOSHIBA	PROSEC T Series	√	√
	V Series	√	√
LS Industrial Systems	MASTER-K	√	√
VIGOR	VB	√	√
	VH		

- The company names and product names are registered trademarks or brand names.
- 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.

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 catalog are subject to change without notice.

www.idec.com