IDEC Touchscreen Displays

IDEC SmartTouch Family:

Smart design to fit your needs
From the large 12.1" TFT LCD Screen, to the compact 5.7" STN LCD, our screens support 256 colors with high pixel resolution to give you sharp images and excellent visibility. In keeping with IDEC's attention to detail, our slim-body design adapts to applications where space is limited. With up to 8MB of memory and a 200MHz 32-bit RISC CPU, IDEC Touchscreens put control, power and speed at your fingertips.

Versatile, High functionality
IDEC Touchscreens can function as either a stand alone controller or communicate with IDEC PLCs and a wide array of major manufacturers' PLCs. Touchscreens interface with any of your equipment to provide graphical data presentations in vivid color and to display bar graphs and meters to represent analog data. Illuminated pushbuttons can replace physical mechanical switches; pilot lamps can display on/off states and show almost any production information you need to monitor.

Programming power made easy
IDEC's powerful WindO/I-NV2 software lets you create colorful graphical interfaces for easier production supervision and control. A built-in library of over 5000 bitmap images helps you easily display almost every manufacturing activity you want to control. Our programming software is intuitive and user-friendly. With re-sizeable pop-up screens, Windows compatible fonts, and multilingual text capabilities, you enjoy the utmost flexibility in designing and programming.

12.1" HG4F

10.4" HG3F

5.7" HG2F

K

Operator Interfaces

Features

The IDEC SmartTouch Family is ideally matched to today's sophisticated technology. Using a wide range of graphic options, you can clearly represent specific equipment, make production information immediately apparent and instantly display safety problems. Consolidating controls on an IDEC touchscreen interface eliminates costly investments in wiring and installation of multiple pushbutton indicators on the traditional control panel. Just think how you can benefit with touchscreens at critical spots in your plant

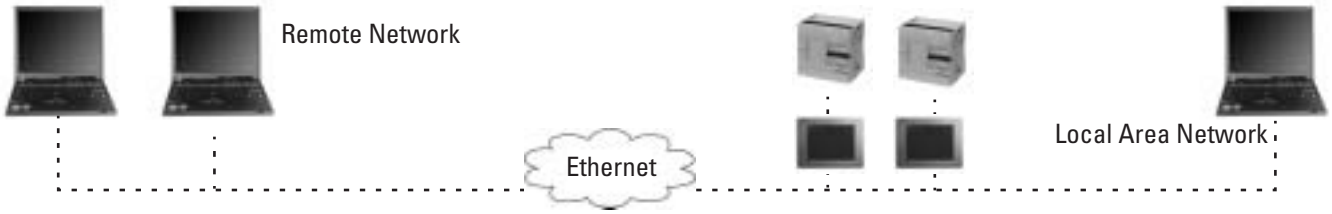
Expansion I/O

An expansion digital I/O module gives you the option of expanding your system with 16 DC inputs and 16 transistor outputs for basic PLC control.

Basic Data Representation

A built-in software library of over 5000 bit-mapped images lets you graphically represent almost any plant activity or equipment that you want to monitor or control. In addition to representing meters, bar graphs and switches, you can also incorporate keypads to facilitate changing values. Our user-friendly programming software lets you design each screen by simply selecting objects from a pull-down menu or from a row of object icons and dropping it onto the screen work area. All bitmap images are available in 256 colors and are easily re-configurable.

Ethernet Support



The built-in 10BaseT Ethernet port found on the 10.4" and 12.1" touchscreens allow you to remotely monitor machine-operating status via the Internet or your Local Area Network using any web browser. Regardless of your location, you can use your PC's browser (Netscape or Internet Explorer) to collect CF Card data about any touchscreen project. You can efficiently monitor and manage production activity from your office without the time or expense of travel.

Recipe, Alarm and Trend Logging

The Recipe function allows you to conveniently set operational parameters, which can be individually defined for different processes. The Alarm function stores historical events with a date and time stamp. Trend Logging expresses data in graphical form according to the time period you define. Using these functions, you can quickly view production information and collect and manage valuable data.

Compact Flash Card

IDEC SmartTouch support Compact Flash (CF) Cards with up to 512 MB of memory. In addition to storing recipe, alarm and trending data, the CF Card can also store screen captures in a BMP format for documentation purposes. The CF Card can hold one or more projects and you can easily transfer a project directly to another touchscreen by simply inserting the card into the second touchscreen and downloading what you need.

Features con't

To meet your application needs, IDEC offers a 12.1" and 10.4" TFT LCD screen and 5.7" STN LCD screen which all come with 256 color or monochrome with 16 shades of gray to provide you with either multicolored or gray scale graphics. All screens have high pixel resolution and super bright LCD screens with 350 cd/m^2 for the 12.1" and 10.4" screen and 250 cd/m^2 for the 5.7" screen to provide sharp quality images. With RS-232 / RS-485 / RS-422 communication, all IDEC Touchscreens communicate with IDEC as well as other industry leading PLC manufacturers.

Their slim body style of: 50mm depth for the 5.7" HG2F, 49.6mm depth for the 10.4" HG3F, and 52.1mm depth for the 12.1" HG4F, provide a great advantage in space and cost saving in a panel.

O/I Link Communication

This link permits a single PLC to communicate with multiple IDEC touchscreens, where one touchscreen serves as the master and up to 15 as slaves. An O/I Link will accommodate communications over a maximum distance of 200 meters. The O/I Link should be used whenever you are using more than one touchscreen in a location to monitor and control a single PLC.

1:N PLC Communication

This mode allows a single IDEC touchscreen to communicate with multiple PLCs. It is used when you need only one centrally located touchscreen to monitor and control PLCs in different locations. Depending on PLC type, a maximum of 31 PLCs can be connected to one touchscreen. PLC manufacturers supported for 1:N communication are: IDEC OpenNet Controller and MicroSmart, Automation Direct (Koyo): DirectLogic-DL205/405 and Modicon: Modbus RTU.

Pass Thru Function

This function lets you download a PLC program from a PC through the touchscreen without interrupting operations. Only one cable is needed to program both units. The Pass Thru communications function is applicable to the following PLCs: IDEC Micro3, Micro3C, OpenNet Controller, MicroSmart and Mitsubishi MELSEC-FX, FX3UC and Q.

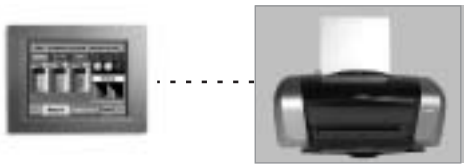
Support of Leading Manufacturer's PLCs

IDEC Touchscreen's communications capabilities expand well beyond IDEC brand PLCs. Other major PLC manufacturers supported are: Allen Bradley, Mitsubishi, Omron, Automation Direct (Koyo), Keyence, GE, Modicon, Siemens, Sharp, Hitachi, Schneider, Yaskawa, Fanuc, Matsushita Electric Works (Aromat) and Yokogawa.

Approvals and International Ratings

The IDEC SmartTouch Family is UL listed for use in hazardous locations (Class I Div. 2). In addition the 5.7" screen is IP65 and Nema 13 rated, while the 10.4" and 12.1" screens are IP66, Nema 4, 4X, 13 rated so they can be used in the most demanding industrial applications.

Printer Function



You can use this capability to print alarm data so a hard-copy record of specific events can be maintained. Copies of screens can also be printed when needed for documentation. Serial printers supported on all IDEC SmartTouch Screens. Parallel Printers supported on 10.4" and 12.1" Models only.

Barcode Reader Support

IDEC Touchscreens provide a serial port that you can configure for use by special communication devices such as barcode readers. A barcode reader can send data directly to the touchscreen, where it can be used for quick viewing before being transferred to the PLC for further data manipulation.

Debugging Functions

Two modes are available for either monitoring data or troubleshooting. Once you download the project you created in WindO/I-NV2 to the touchscreen, you can use the Debugging Mode to communicate directly with the touchscreen and switch between screens or view and modify batch data from the controls of your PC. In Simulation Mode, you can use simple On/Off control without connecting to the PLC.

WindO/I-NV2 Software

Easy Programming: Intuitive Drag & Drop Functionality

The WindO/I-NV2 software for all IDEC SmartTouch touchscreens is the programming tool that lets you create colorful graphical interfaces to visualize operating conditions. The software is very intuitive with drag and drop functionality. The Help menus are a great source of information and a built-in library of bitmaps provides over 5000 images to help expand your creativity. The software also includes a debug function where you can go online with the touch-screen for monitoring and changing data.

Flexible Screen Display for Efficient Editing

With WindO/I-NV2 software, screens can be easily arranged. A total of 3000 base screens can be created (as allowed by the memory size). Sub-screens known as pop-up menus can be resized, made (showing backgrounds) using the superimpose function, and can be made to appear anywhere around the base screen.

Easy to manage Projects and Screens

Screens and Project Settings List:

- Screens can be duplicated and their properties can be changed easily.
- Project settings can be edited.
- Devices, text, and images can be imported or exported.

Screen Preview List:

- Screens can easily be selected using the preview image function.

Object List:

- Each object displays its properties such as the type of device used, conditions, and operations.

Buttons:

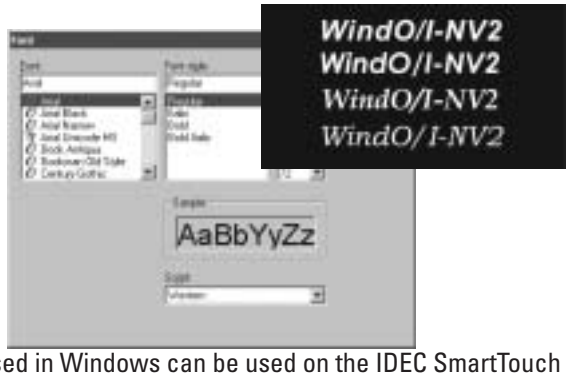
- A button selected from an object list is shown on the editing screen.

Extensive Image Library

A built-in symbol library provides over 5000 symbols to help you create cutting-edge graphical screens. Image data from BMP, JPG, DXF, WMF, and ICO files can also be imported.

WindO/I-NV2 con't

Compatible with Standard Windows Fonts



Fonts used in Windows can be used on the IDEC SmartTouch touchscreens, making it possible to choose from a variety of text styles.

Easy Programming of Operating Conditions

Operating conditions for objects such as switches, lamps, bit/word write, screen switching, and many more are easy to use. Step by step wizards guide the user through the set-up process.

Script Function

Users with basic programming knowledge in "C" can combine conditional statements, mathematical operations, and other functions to create simple and complex processes, greatly reducing the programming required in the PLC. A syntax check function is also available to provide easy program troubleshooting.

Multilingual Capabilities for Global Applications

The IDEC SmartTouch Touchscreen family can support other languages. With the text group function you can create a text database in different languages. Once the touchscreen is in a different country(e.g. China or Mexico) the customer can easily switch all text messages from English to Chinese or Spanish by a touch of a button.

Applicable languages:
Win2000 and XP make it possible to input Japanese, Simplified Chinese, Traditional Chinese, and Korean languages, Western European languages (English, German, French, Italian, Spanish, Dutch, Norwegian, Danish, Finnish, Swedish, etc.) Central European languages (Czech, Hungarian, Romanian, Croatian, Slovene, Polish, and Slavic), Baltic languages, Cyrillic languages (Russian, Ukranian, Bulgarian, Macedonian).

Available Functions

	Category	Item	HG2F		HG3F	HG4F
			Touch Switch Type	CC Switch Type		
Available Functions	Communication	PLC link communication	✓	✓	✓	✓
		DM link communication	✓	✓	✓	✓
		O/I link communication	✓	✓	✓	✓
		Ethernet	—	—	✓	✓
		No host	✓	✓	✓	✓
	User Memory		2 MB	2 MB	8 MB*	8 MB*
	Interface	RS232C/RS485 (422)	✓	✓	✓	✓
		Ethernet	—	—	✓	✓
		CF card slot	✓	✓	✓	✓
		Parallel	—	—	✓	✓
	Display Color	256 colors	✓	✓	✓	✓
		Monochrome	✓	✓	—	—
	Brightness	(cd/m^2)	250	250	350	350
	Resolution	(pixels)	320 × 240	320 × 160**	640 × 480	800 × 600
	Touch Switch		16 × 12	16 × 8	32 × 24	40 × 30
	CC Switch		—	4 × 1 row (bottom)	—	—
	Expansion Unit	Digital I/O unit	✓	✓	✓	✓
	Features	System program download	✓	✓	✓	✓
		Font download	✓	✓	✓	✓
		Download via Ethernet	—	—	✓	✓
		Download via O/I link	✓	✓	✓	✓
		Project transfer via CF card	✓	✓	✓	✓
		Printer output	✓	✓	✓	✓
		Backlight replacement	✓	✓	✓	✓
		Environment resistance	✓	✓	✓	✓
	Functions	Simulation	✓	✓	✓	✓
		Pass through	✓	✓	✓	✓
		Device monitor	✓	✓	✓	✓
		Web server function	—	—	✓	✓
		Overlapped screens	✓	✓	✓	✓
		Sub-screen superimpose	✓	✓	✓	✓
		Text group switching	✓	✓	✓	✓
		Script	✓	✓	✓	✓
		Part operating condition setting	✓	✓	✓	✓
		Alarm log	✓	✓	✓	✓
		Logging	✓	✓	✓	✓
		Recipe	✓	✓	✓	✓
		Password setting	✓	✓	✓	✓
	Parts	Bit button	✓	✓	✓	✓
		Word button	✓	✓	✓	✓
		Goto screen button	✓	✓	✓	✓
		Print button	✓	✓	✓	✓
		Key button	✓	✓	✓	✓
		Keypad	✓	✓	✓	✓
		Selector switch	✓	✓	✓	✓
		Potentiometer	✓	✓	✓	✓
		Numerical input	✓	✓	✓	✓
		Character input	✓	✓	✓	✓
		Pilot 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	✓	✓	✓	✓
		Print command	✓	✓	✓	✓
		Screen print command	✓	✓	✓	✓
	WindO/I-NV2 Functions	Debugging	✓	✓	✓	✓
		Log data upload tool	✓	✓	✓	✓
		Graphic library tool	✓	✓	✓	✓
		Screen import	✓	✓	✓	✓
		Text browser	✓	✓	✓	✓
		Device browser	✓	✓	✓	✓
		Script browser	✓	✓	✓	✓
		Picture browser	✓	✓	✓	✓
		Basic/advanced mode	✓	✓	✓	✓
		Preview	✓	✓	✓	✓
		Windows font	✓	✓	✓	✓
		Library function	✓	✓	✓	✓
		Global replace	✓	✓	✓	✓
		Work space	✓	✓	✓	✓

*1. *2MB used for OS*
*2. **four tactile push regions (40 x 70 pixels)*

Part Numbers

Part Numbers: IDEC SmartTouch

Part Numbers		Bezel Color	Description
12.1"	HG4F-JT22TFW	Light Gray	Color TFT LCD Touchscreen
	HG4F-JT22TFB	Black*	Color TFT LCD Touchscreen
	HG4F-JT22TFW-DH485-500	Light Gray	Color TFT LCD Touchscreen with DF1 / DH485 converter/cable package for SLC 500 (w/RJ45 connector)
10.4"	HG3F-FT22TFW	Light Gray	Color TFT LCD Touchscreen
	HG3F-FT22TFB	Black*	Color TFT LCD Touchscreen
	HG3F-FT22TFW-DH485-500	Light Gray	Color TFT LCD Touchscreen with DF1/DH485 converter/cable package for SLC 500 (w/RJ45 connector)
5.7"	HG2F-SS22VCF	Light Gray	Color STN LCD Touchscreen
	HG2F-SB22VCF	Light Gray	Monochrome STN LCD Touchscreen
	HG2F-SS22VCF-DH485-500	Light Gray	Color STN LCD Display with DF1 / DH485 converter/ cable package for SLC500 (w/ RJ45 connector)
	HG2F-SB22VCF-DH485-500	Light Gray	Monochrome STN Color Display with DF1 / DH485 converter / cable package for SLC500 (w/RJ45 connector)
5.7" with CC Click	HG2F-SS52VCF	Light Gray	Color STN LCD Touchscreen w/ CC Click Tactile Touchbutton Technology
	HG2F-SB52VCF	Light Gray	Monochrome STN LCD Touchscreen w/ CC Click Tactile Touchbutton Technology

** Black Bezel Models available upon request. Please consult IDEC.*

Accessories

Part Numbers: Accessories

Accessory	Description	Part Number
Programming Tools	WindO/I-NV2 Programming software for all IDEC Touchscreen Series	HG9Y-ZSS2W
	Cable connecting PC to Touchscreen via RS-232 Serial Port	HG9Z-XCM1A
Converters	USB to RS-232 Convertor for PCs without Serial Ports	FC4A-USB
	AB SLC500 (w/RJ45 connector) DF1 / DH485 Communication Package	HG9Z-GWDF1DH485-2
Protective Sheet	For 12.1" HG4F (2 pcs. / pack)	HG9Z-4DAPN02
	For 10.4" HG3F (2 pcs. / pack)	HG9Z-3DAPN02
	For 5.7"HG2F (5 pcs. / pack)	HG9Z-2D2
Mounting Clips	For 10.4" HG3F & 12.1" HG4F (10 pcs. / pack)	HG9Z-4K1PN10
	For 5.7" HG2F (4 pcs. / pack)	HG9Z-2K1PN04
Replacement Backlight	For 12.1" HG4F	HG9Z-4FB
	For 10.4" HG3F	HG9Z-3FB
	For 5.7" HG2F	HG9Z-2B1
O/I Link Unit	For 12.1" HG4F / 10.4" HG3F / 5.7" HG2F	HG9Z-2G1
32 Point Digital I/O	For 10.4" HG3F & 12.1" HG4F (16 Inputs & 16 Outputs)	HG9Z-3P102
	For 5.7" HG2F (16 Inputs & 16 Outputs)	HG9Z-2P101
Compact Flash Card	32MB CF Card for 5.7" HG2F, 10.4" HG3F, 12.1" HG4F	HG9Z-MF32

Part Numbers con't

Part Numbers: Cables

Manufacturer	Series	Applicable CPU	Communication Type	Communication Module Required	Comm. Cable P/N
IDEC	FA-3S	PF3S-CP12/CP13	RS232	PF2-CLA	N/A
				PF3S-SIF2	N/A
			RS485	PF3S-SIF4	N/A
		PF3S-CP11/CP11T	RS232	PF2-CLA	N/A
	FA-2J	PF2J			
	Micro3	FC2A	RS485	Built-in Port	HG9Z-3C115A
	Micro3C	FC2A-...C	RS232	Built-in Port	HG9Z-3C125A
			RS485	Built-in Port	HG9Z-2C145A
	OpenNet	FC3A	RS232	Built-in Port	HG9Z-3C125A
			RS485	Built-in Port	HG9Z-2C145A
	MicroSmart	FC4A	RS232	Built-in Port	FC4A-KC2CA
				FC4A-PC1/HPC1	
			RS485	FC4A-PC2/HPC2	HG9Z-3C115A
				FC4A-PC3/HPC3	HG9Z-2C145A
Allen Bradley	PLC-5	1785	RS232	Built-in Port	N/A
				1770-KF2	
			RS422	Built-in Port	N/A
				1770-KF2	
	SLC-5/03, SLC-5/04, SLC-5/05	1747-L53, 1747-L54	RS232	Built-in Port	HG9Z-2C125A
			DH485	Built-in Port	please purchase IDEC converter: HG9Z-GWDF1DH485-2 (DF1-DH485 converter)
	MicroLogix 1000, 1200, 1500	1761, 1762	RS232	Built-in Port	HG9Z-2C135A
Automation Direct (Koyo)	DL405	D4-430, D4-440	RS232	Built-in Port	N/A
				D4-DCM	
			RS422	Built-in Port	N/A
	DL205	D2-240	RS232	Built-in Port	N/A
Siemens	S7-200	CPU 212, 214, 215, 216, 221, 222, 224, 226, 226XM, 224XP	RS485	Built-in Port	HG9Z-2C155
	S7-300	CPU 313, 314, 315, 315-2DP, 316, 318	RS232	CP-340-RS232C or CP-341-RS232C	N/A
			RS485	CP-340-RS 422/485 or CP-340-RS 422/485	N/A
	S7-400	CPU 412, 414, 416, 416F-2, 417		CP-440-RS 422/485 or CP-440-RS 422/485	
			RS232	CP-440-RS232C or CP-441-RS232C	N/A
Schneider (Telemecanique, SquareD)	Twido	TWDLCAA16DRF, TWDLCAA24DRF (including 10, 20, 40 CPUs)	RS232	TWDNAC232D	N/A
			RS485	TWDNAC485D	HG9Z-3C115A
				TWDNAC485T	HG9Z-2C145A
	Momentum	171CCC96020	RJ-45 Ethernet Port	Built-in RJ-45 Port	CAT 5 Ethernet Crossover cable

N/A = Cable not available at this time. Wiring diagram available at www.idec.com/usa/smarttouch. Select the link for "Supported PLCs".

Manufacturer	Series	Applicable CPU	Communication Type	Communication Module Required	Comm. Cable P/N
Others	Others	Any PLCs that support MODBUS/TCP protocol	RJ45 Ethernet Port	Built-in RJ45 Port	Cat 5 Ethernet Crossover Cable
Aromat	FP	FP0	RS232	Built-in-Port	HG9Z-2C165A
		FP1	RS232	Built-in-Port	N/A
				AFP8550	N/A
			RS422	Built-in-Port	N/A
		FP Sigma	RS232	Built-in-Port	HG9Z-2C165A
				FPG-COM1 (AFPG801)	N/A
				FPG-COM2 (AFPG802)	N/A
			RS485	FPG-COM3 (AFPG803)	N/A
		FP10, FP10SH	RS232	Built-in-Port	N/A
				AFP3462	
		FP2, FP2SH		Built-in-Port	
				AFP3462	
Mitsubishi	MELSEC-A	A1N, A2N, A3N	RS232	AJ71C24-S3/S6/S8 or AJ71UC24	HG9Z-3C135A
			RS485	AJ71C24-S3/S6/S8 or AJ71UC24	N/A
		A1SH	RS485	A1SJ71C24-R2/R4 or A1SJ71UC24-R2/R4	
			RS232	A1SJ71C24-R2/R4 or A1SJ71UC24-R2/R4	HG9Z-3C145A
		A2CCPUC24	RS232	Built-in-Port	
		A0J2, A0J2H	RS232	A0J2-C214-S1	HG9Z-3C135A
			RS485	A0J2-C214-S1	N/A
		A2A, A3A, A2U, A3U, A4U	RS485	1J71C24-S6/S8 or AJ71UC24	
			RS232	1J71C24-S6/S8 or AJ71UC24	HG9Z-3C135A
		A2US, A2USH-S1	RS232	A1SJ71C24-R2/R4 or A1SJ71UC24-R2/R4	HG9Z-3C145A
			RS485	A1SJ71C24-R2/R4 or A1SJ71UC24-R2/R4	N/A
		A2N	RS422	Built-in-Port	HG9Z-3C165A
		A1SJH, A1SH, A2SH, A2C, A0J2H			
		A2A, A3A, A2US, A2USH			
		A2U, A2USH-S1			
	MELSEC-Q	Q00CPU, Q01CPU	RS232	Built-in-Port	N/A
		Q02CPU			
		C01CPU-A			
		Q02CPU, Q06HCPU, Q12PHCPU	RS232	Built-in-Port	HG9Z-3C145A
			RS485	Built-in-Port	N/A

N/A = Cable not available at this time. Wiring diagram available in WindO/I-nv2 manual. Visit www.idec.com/manuals. Download Host Interface manual & select "Connection to a PLC" Chapter 2.

Manufacturer	Series	Applicable CPU	Communication Type	Communication Module Required	Comm. Cable P/N
Mitsubishi con't	MELSEC-FX	FX0, FX0N, FX0S, FX1, FX1S, FX2, FX2C	RS422	Built-in-Port	HG9Z-3C165A
		FX1N, FX1NC, FX2N, FX2NC			
		FX3UC			
		FX2N	RS422	FX2N-422-BD	
			RS485	FX2N-485-BD	N/A
			RS232	FX2N-232-BD	N/A
		FX1N	RS232	FX1N-232-BD	
			RS422	FX1N-422-BD	HG9Z-3C165A
			RS485	FX2N-485-BD	N/A
Omron	SYSMAC-C	CP1, CPM1A	RS232	CPM1-CIF01	HG9Z-3C155A
			RS422	CPM1-CIF11	N/A
		CPM2A			N/A
			RS232	Built-in-Port	HG9Z-3C155A
				CPM1-CIF01	
		C500, C500F, C1000H, C2000, C2000H	RS232	C120-LK201-V1	HG9Z-3C135A
				C500-LK201-V1	
				C500-LK203	
			RS422	C120-LK202-V1	N/A
				C500-LK201-V1	
				C500-LK203	N/A
		C1000HF	RS422		N/A
			RS232	C500-LK203	HG9Z-3C135A
		C200HS	RS232	C200H-LK201	
			RS422	C200H-LK202	N/A
		C200HE, C200HG, C200HX	RS422		N/A
				C200HW-COM03/06	N/A
			RS232	C200H-LK201	HG9Z-3C135A
				C200HW-COM02/040/5/06	N/A
		C120, C120F	RS232	C120-LK201-V1	HG9Z-3C135A
			RS422	C120-LK202-V1	N/A
		CQM1H, C200HS-CPU21/23/31/33	RS232	Built-in-Port	HG9Z-3C155A
		C200HE-CPU42, C200HG-CPU43/63, C200HX-CPU44/64	RS232	Built-in-Port	N/A
	CS1	CS1G, CS1H	RS232	Built-in-Port	
				CS1W-SCB41 (port1)	
			RS422	CS1W-SCB41 (port2)	N/A
Keyence	KV Series	KV 10, 16, 24, 40, 80	RS232	Built-in-Port	N/A
	KV-700	KV-700			
GE Fanuc	VersaMax Nano/ Micro	10 I/Os, 14 I/Os	RS232	Built-in-Port	N/A
		23 I/Os, 28 I/Os	RS485	Built-in-Port	N/A
	Series 90-30	CPU 311, 313, 323, 331, 341, 350, 351, 352, 360, 363, 364, 374	RS485	Built-in-Port	
		CPU 331, 341, 350, 351, 352, 360, 363, 364, 374	RS232	IC693CMM311	N/A
			RS485		N/A

N/A = Cable not available at this time. Wiring diagram available in WindO/I-nv2 manual. Visit www.idec.com/manuals. Download Host Interface manual & select "Connection to a PLC" Chapter 2.

Specifications

General Specifications

Type	HG2F	HG3F	HG4F
Rated Power Voltage	24V DC		
Power Voltage Range	20.4 to 28.8V DC	19.2 to 28.8V DC	
Power Consumption	10W maximum	25W maximum	
Power Inrush Current	20A maximum	15A maximum (cold start)	
Allowable Momentary Power Interruption	10 ms minimum		
Dielectric Strength	1,000V AC, 10 mA, 1 minute between power and FG terminals	1,500V AC, 10 mA, 1 minute between power and FG terminals	
Insulation Resistance	50 MΩ minimum between power and FG terminals (500V DC megger)	10 MΩ minimum between power and FG terminals (500V DC megger)	
Operating Temperature	0 to 50°C (no freezing)		0 to 45°C (no freezing)
Operating Humidity	10 to 95% RH (no condensation)	20 to 85% RH (no condensation)	
Storage Temperature	–20 to +60°C (no freezing)		
Storage Humidity	10 to 95% RH (no condensation)	20 to 85% RH (no condensation)	
Pollution Degree	2 (IEC 60664-1)		
Corrosion Immunity	Atmosphere free from corrosive gases		
Vibration Resistance (damage limits)	10 to 20 Hz amplitude 0.625 mm, 20 to 55 Hz acceleration 9.8 m/s2 2 hours per axis on each of three mutually perpendicular axes		
Shock Resistance (damage limits)	147 m/s2, 11 ms, 5 shocks on each of three mutually perpendicular axes		
Noise Immunity	Fast transient/burst test, common mode: Level 3, power terminals: ±2 kV, communication line: ±1 kV (IEC/EN 61000-4-4)		
Electrostatic Discharge	ESD-3 (RH-1), Level 3, (contact ±6 kV, aerial ±8 kV) (IEC/EN 61000-4-2)		
Mounting	Panel mounting		
Degree of Protection	IP65 NEMA TYPE 13 (operator)	IP66 NEMA TYPE 4, 4X, 13 (operator)	
Dimensions (mm)	172W x 136H x 56D	324W x 240H x 55.8D	348W x 270H x 58.1D
Weight (approx.)	800g	2800g	3400g

Operation Specifications

Type	HG2F		HG3F	HG4F
	Touch Screen Type	CC Switch Type		
Switching Element	Resistive membrane			
Resolution	16 x 12	16 x 8	32 x 24	40 x 30
CC Switch Quantity	—	4 x 1 row (bottom only)	—	—
Operating Force	0.2 to 0.8N	2.5 to 5.0N	0.2 to 0.8N	0.2 to 0.8N
Mechanical Life	1,000,000 operations			
Acknowledge Sound	Electronic buzzer			
Multiple Operations	Possible to press two switching areas simultaneously (CC switch and touch screen cannot be pressed together)			

Display Specifications

Type		HG2F		HG3F	HG4F
		Color	Monochrome	Color	Color
LCD		Color STN	Monochrome STN	Color TFT	
Effective Display Area (mm)		118.2W x 89.4H		211.2W x 158.4H	246W x 184.5H
Display Resolution		320W x 240H pixels		640W x 480H pixels	800W x 600H pixels
LCD Life		50,000 hours minimum		100,000 hours minimum	60,000 hours minimum
Contrast Adjustment		Possible in steps using the front touch screen			
Backlight		Cold-cathode tube		Cold-cathode tube (2 tubes)	
Backlight Life		40,000 hours nominal (Note)		50,000 hours nominal (Note)	
Backlight Control		Automatic OFF			
Backlight Replacement		Possible			
Display Character Size	1/4 size	8 x 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 x 16 pixels (Western European language ISO 8859-1, Central European language: ANSI 1250, Japanese katakana and symbols: JIS 8-bit code) 16 x 32 pixels, 24 x 48 pixels, 32 x 64 pixels (Western European language: ISO 8859-1)			
	Full size	16 x 16 pixels (Japanese JIS first and second level characters, simplified Chinese, traditional Chinese, Korean)			
	Double size	32 x 32 pixels (Japanese JIS first level characters, Mincho font)			
Quantity of Characters (CC Switch Type)	1/4 size	40 characters x 30 lines (40 x 20)		80 characters x 60 lines	100 characters x 75 lines
	1/2 size	40 characters x 15 lines (40 x 10)		80 characters x 30 lines	100 characters x 37 lines
	Full size	20 characters x 15 lines (20 x 10)		40 characters x 30 lines	50 characters x 37 lines
	Double size	10 characters x 7 lines (10 x 5)		20 characters x 15 lines	25 characters x 18 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 Type		Straight line, polyline, polygon, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image			
Window Display		3 popup screens + 1 system screen			

The backlight life refers to the time until the surface brightness reduces to a half after using continuously at room temperatures.

Specifications con't

Operation Specifications

Type	HG2F	HG3F/4F
Screen Types	Base screen, popup screen, system screen	
No. of Screens	Base screen: 3000 max., popup screen: 3015 max.	
User Memory	2 MB	8 MB*
Parts	Bit Button, Word Button, Goto Screen Button, Print Button, Key Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot 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, Print Command, Screen print	
Calendar	Year, Month, Day, Hour, Min., Sec., Day of Week ±30 sec per month (at 25°C)	
Print Function (support)	SII printer, DPU-414	ESC/P, PC-PR, PCL command; EPSON PX-V600/Stylus C84
Power Failure Backup	Backup data: Calendar, log data, keep internal relay, keep internal register Backup duration: 1 month (at 25°C) after full charging for two days	

**2MB for OS*

CF Card Interface Specifications

Interface Specifications	Compact Flash Type I standard compliant
Connector	50-pin compact flash card connector

Memory size supports up to 512MB.

Parallel Interface Specifications (HG3F/4F)

Electrical Characteristics	Centronics interface compliant
Connector	D-sub 25-pin female connector

Ethernet Specifications (HG3F/4F)

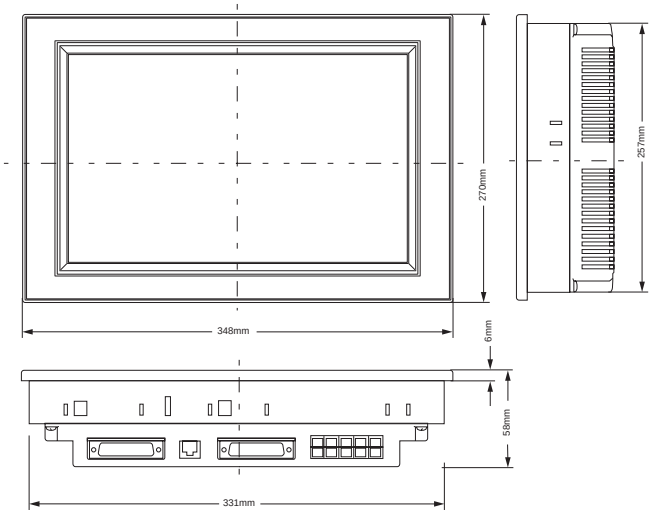
Interface Specifications	IEEE 802.3 standard compliant, 10Base-T

Interface Specifications

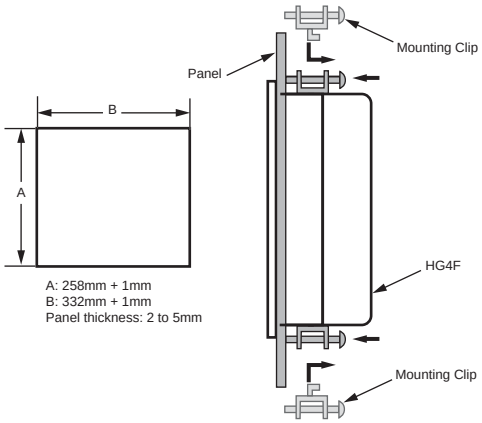
RS232C	Electrical Characteristics	EIA RS232C compliant
	Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half or full duplex
	Control System	Hardware control or none
	Connector	D-sub 25-pin female connector
RS485 (422)	Electrical Characteristics	EIA RS485 (422) 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 25-pin female connector
Expansion Unit (Digital I/O Unit)	Applicable Quantity	1
	Mounting Style	Mounted on the rear of the HG unit
Input	Input Points	16
	Rated Voltage	12 to 24V DC (allowable range 10 to 28V DC)
	Isolation Method	Photocoupler
Output	Output Points	16
	Load Voltage	12 to 24V DC (allowable range 10 to 28V DC)
	Isolation Method	Photocoupler
	Output Signal	NPN open collector
	Output ON Voltage	1.6V maximum
	Output Current	30 mA max. per point, 200 mA total
	Connector	24-pin connector (Fujitsu FCN-365P024-AG) 2 connectors for inputs and outputs
Maintenance Communication	Electrical Characteristics	EIA RS232C compliant
	Transmission Speed	9600, 19200, 38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half duplex, proprietary protocol
	Connector	Mini DIN 8-pin connector
O/I Link Communication	Electrical Characteristics	EIA RS485 compliant
	Transmission Speed	38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half duplex, proprietary protocol
	Connector	Special connector

Dimensions & Panel Cutouts

HG4F Dimensions

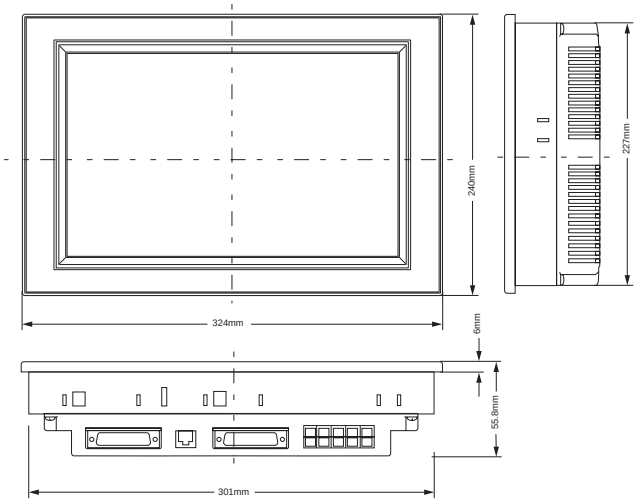


HG4F Installation Panel Layout

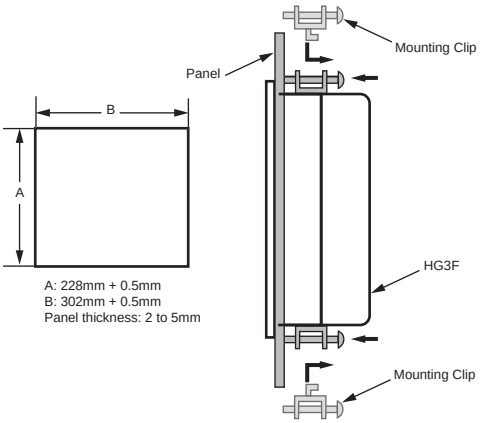


A: 258mm + 1mm
B: 332mm + 1mm
Panel thickness: 2 to 5mm

HG3F Dimensions

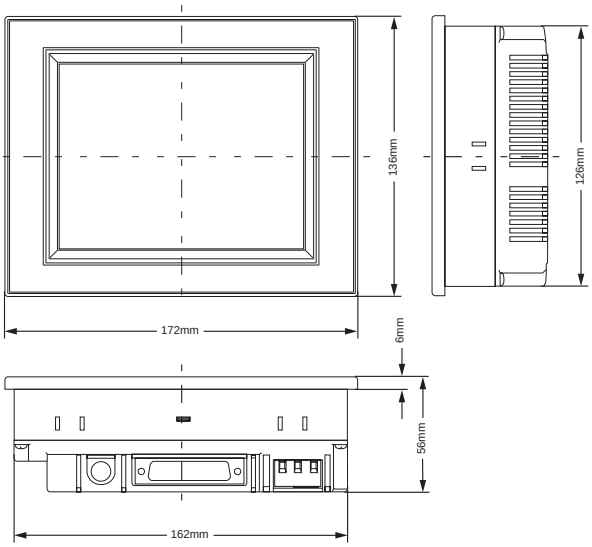


HG3F Installation Panel Layout

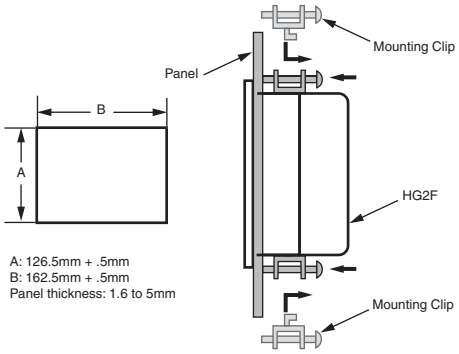


A: 228mm + 0.5mm
B: 302mm + 0.5mm
Panel thickness: 2 to 5mm

HG2F Dimensions



HG2F Installation Panel Layout



A: 126.5mm + .5mm
B: 162.5mm + .5mm
Panel thickness: 1.6 to 5mm