HG1F Operator Interface

Clear legible display of 300 × 100 pixels
Multiple functions comparable to larger operator interfaces

- High-contrast monochrome LCD, super bright 500 cd/m² (luminance according to LCD manufacturer's specifications)
- 16 adjustable brightness levels
- All Windows® fonts can be displayed.
- High-performance CPU ensures quick response in operation and display.
- Analog touch panel enables flexible screen layout.
- Vertical display is possible.
- User communication functions enable connection to barcode readers and other peripherals.
- High-speed O/I link function enables connection to a maximum of 16 HG units to a host, using optional O/I link unit HG9Z-2G1.
- Thin housing style — only 35.3mm deep behind the panel
- WindO/I-NV2 software is used for easy screen design.
- Compatible with IDEC HG2F, HG3F, HG4F, and HG2S displays.
- Multilingual capabilities, such as English, simplified and traditional Chinese, Korean, and central European languages.
- UL, c-UL listed (except silver bezel), EN compliant

HG1F

Display Screen	Operation	Maintenance Interface	Host Interface	Housing/Bezel Color	Part No.	Remarks
4.6-inch STN monochrome LCD	Touch screen	RS232C	RS232C	Light gray	**HG1F-SB22BF-W**	UL, c-UL, CE
				Dark gray	**HG1F-SB22BF-B**	UL, c-UL, CE
				Silver	**HG1F-SB22BF-S**	CE
			RS485/422	Light gray	**HG1F-SB22YF-W**	UL, c-UL, CE
				Dark gray	**HG1F-SB22YF-B**	UL, c-UL, CE
				Silver	**HG1F-SB22YF-S**	CE

Note: Each HG1F operator interface is supplied with four mounting clips SLD-K02 and one battery HG9Z-XR1.

Options

Name	Part No.	Ordering No.	Description	Length	Connector to the Host	Mode
PLC Connection Cable (Note 1)	**HG9Z-XC183**		For IDEC's MicroSmart, OpenNet Controller, port 2	3m	Mini DIN 8-pin	RS232C
	FC4A-KC1C		For IDEC's MicroSmart, port 1	5m	Mini DIN 8-pin	RS232C
	HG9Z-XC115		For IDEC's FA-3S SIF2	5m	Dsub 9-pin female	RS232C
	HG9Z-XC245		For Mitsubishi FX direct connection	5m	Mini DIN 8-pin	RS422
	HG9Z-XC255		For Mitsubishi A/QnA direct connection	5m	Dsub 25-pin female	RS422
	HG9Z-XC265		For Mitsubishi Q series direct connection	5m	Mini DIN 6-pin	RS232C
	HG9Z-XC145		For Mitsubishi computer link unit	5m	Dsub 25-pin female	RS232C
	HG9Z-XC155		For OMRON link unit	5m	Dsub 25-pin female	RS232C
	HG9Z-XC203		For Mitsubishi computer link unit	3m	Dsub 9-pin female	RS232C
	HG9Z-XC213		For OMRON CPU unit RS232C interface (except C20H, 28H, 40H)	3m	Dsub 9-pin female	RS232C
Maintenance Cable	**HG9Z-XCM22**		D-sub 9-pin female connector to connect to computer (2m long) (Note 2)			
Protective Sheet	**HG9Z-1D**	**HG9Z-1DPN05**	For protecting the HG1F screen (5 pcs/pack)			
O/I Link Unit	**HG9Z-2G1**		Communication unit for O/I link			
Application Software Automation Organizer	**SW1A-W1C**		Includes WindO/I-NV2 (English/Japanese/Chinese) on CD. PDF files of English/Japanese/Chinese manuals are stored on the CD.			
User's Manual	**HG9Y-B1119**		English			

Note 1: For cable connection diagrams, see the host interface manual which is stored on the Automation Organizer. Also visit our website at www.idec.com.
Note 2: Computer link cable 4C (FC2A-KC4C) for IDEC's MicroSmart and OpenNet Controller is also applicable.

Replacement Parts

Name	Part No.	Ordering No.	Description
Replacement Backlight (CCFL)	**HG9Z-1FB**		One backlight is supplied with HG1F.
Mounting Clip	**SLD-K02**	**SLD-K02PN10**	10 pcs/pack (four pieces are supplied with HG1F)
Replacement Battery	**HG9Z-XR1**		Lithium battery CR2032 (one battery is supplied with HG1F)

HG1F Operator Interface

General Specifications

Rated Power Voltage	24V DC
Power Voltage Range	20.4 to 28.8V DC
Power Consumption	10W maximum
Power Inrush Current	20A maximum
Allowable Momentary Power Interruption	10 ms minimum
Dielectric Strength	1,000V AC, 10 mA, 1 minute between power and FG terminals
Insulation Resistance	50 MΩ minimum between power and FG terminals (500V DC megger)
Backup Battery	CR2032 lithium primary battery Life approx. 4 years (25°C)
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 (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 61000-4-4) — IEC610004-4
Electrostatic Discharge	ESD-3 (RH-1), Level 3, (contact ±6 kV, air ±8 kV) (IEC 61000-4-2) — IEC61000-4-2
Mounting	Panel mounting
Degree of Protection	IP65, NEMA Type 13 (operator)
Dimensions	147W × 76H × 39.3D mm
Weight (approx.)	280g

Operation Specifications

Switching Element	Analog resistive membrane
Operating Force	0.2 to 0.8N
Mechanical Life	1,000,000 operations
Acknowledge Sound	Electronic buzzer

Function Specifications

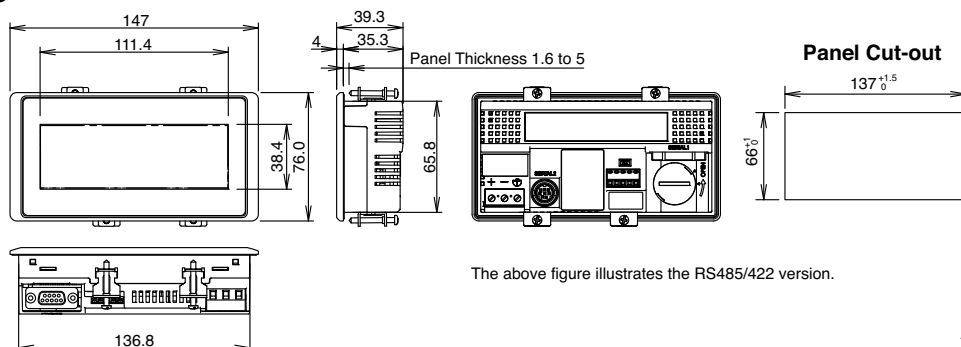|	
Screen Types	Base screen, popup screen, system screen
No. of Screens	Base screen: 3000 max., popup screen: 3000 max.
User Memory	1 MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen Button, Print Button, Key Button, Multi Switch Keypad, Selector Switch, Potentiometer, Numerical 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, Multi Command, Print Command, Screen Script Command, Timer
Calendar	Year, Month, Day, Hour, Min., Sec., Day of Week ±30 sec per month (at 25°C)
Power Failure Backup Data	Calendar, log data, keep internal relay, keep internal register
Battery Life	Recommended replacement span: 4 years (at 25°C)

Display Specifications

LCD	Monochrome STN
Effective Display Area	111.4W × 38.4H mm
Display Resolution	300W × 100H pixels
LCD Life	50,000 hours minimum
Contrast Adjustment	Possible in steps using the front touch screen
Backlight	Cold-cathode tube
Backlight Life	50,000 hours nominal (Note)
Backlight Control	Automatic OFF
Backlight Replacement	Possible

Display Character Size		
	1/4 size	8 × 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI1257, 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: ANSI1257, 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	37 characters × 12 lines
	1/2 size	37 characters × 6 lines
	Full size	18 characters × 6 lines
	Double size	9 characters × 3 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, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image
Window Display	3 popup screens + 1 system screen

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

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 9-pin female connector
RS485/RS422	Electrical Characteristics	EIA RS485/RS422 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	RS485: D-sub 9-pin female connector RS422: 5-pole terminal block
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	19200, 38400, 57600, 115200 bps
	Synchronization	Asynchronous
	Communication Method	Half duplex, proprietary protocol
	Connector	Special connector

Dimensions

Panel Thickness 1.6 to 5

Panel Cut-out

137 +1.5 / 0

66 +1 / 0

The above figure illustrates the RS485/422 version.

All dimensions in mm.