

Industrial Automation Catalog Section - U906

Operator Interfaces

MicrO/I[®] Operator Interfaces

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For up-to-date information, or to request a full copy of this catalog, contact us at www.idec.com or 800-262-IDEC.

Due to continuous product improvements, specifications are subject to change without notice.



MicrO/I[®] HG2A Operator Interface



Slick. Simple. Smart.

Key features of the HG2A include:

- Exceptionally bright, full-touch LCD screen
- 70 touch regions per screen
- Quick response (300ms)
- 279KB memory; configure up to 150 pages
- Bitmap, Graphic, Trend, and printing capabilities
- Communication drivers for most major PLC brands
- Internal buzzer capable of up to 120 alarms
- Windows-based configuration software
- Built-in com. ports (RS232, RS485 or RS422)
- Real time clock (Y2K Compliant)
- Available in color or monochrome
- Meets IP65 standards
- CE marked, c-UL and UL listed
- NEMA TYPE 4, 4X and 13 rated

MicrO/I[®] HG1B Operator Interface



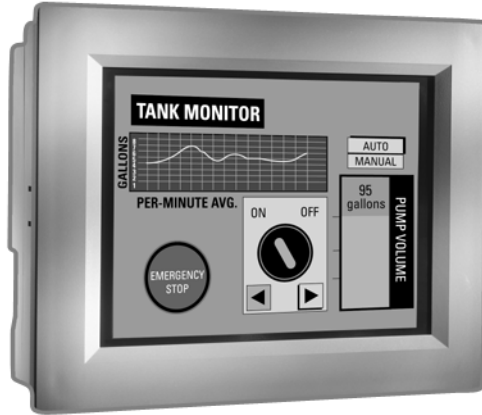
...Only a Touch Away

Key features of the HG1B include:

- User-configurable, forty-eight-point touch LCD screen
- Comes with two host ports RS232 and RS485
- Quick response of 300 msec
- 127k of memory for configuring up to 100 screens
- Built-in Buzzer for easy alarm
- Dynamic text messaging
- Library of bitmap images and graphics
- Drivers for Non-Idec PLC available
- Vertical and horizontal bar graph indicators
- CE Marked, c-UL and UL Listed
- Meets IP65 standards
- Space saving design — approximately 5.5" x 3" x 3.5"

MicrO/I® HG2F Operator Interface

Faster, Brighter, Slimmer



Key features of the HG2F include:

- User configurable
- 192 touch regions per screen
- Field replaceable backlight
- Configuration software runs on Win95, 98, & Win NT-version 4.0
- 2 megabytes of memory
- Dynamic text messaging
- Library of bitmap images
- 256 colors
- Drivers for non-IDEAL PLCs
- Alarm logging capability
- CE marked, c-UL and UL listed
- UL1604 for hazardous locations
- IP65

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MicrO/I HG2A Operator Interface



General Specifications	Electrical	Rated voltage	24V DC ripple factor: 10% maximum
		Voltage variation range	85 to 120% of rated voltage
		Power consumption	15W maximum (color) 12W maximum (mono)
		Momentary power interruption	10ms maximum
		Inrush current	40A maximum
		Withstanding voltage	1500V AC, 10 mA for 1 minute
		Insulation resistance	50M Ω minimum (500V DC megger)
	Environmental	Operating temperature range	0 to 55°C (color) 0 to 50°C (monochrome)
		Operating humidity range	20 to 80% relative humidity (no condensation)
		Storage temperature	-25 to +65°C (color) -25 to +60°C (monochrome)
		Storage humidity	20-85% relative humidity (no condensation)
		Vibration resistance	10 to 55Hz, 9.8 m/s ² (2 hours each in the X, Y, and Z axes)
		Shock resistance	98 m/s ² (5 times each in the X, Y, and Z axes)
		Noise resistance	IEC-801-4 compliant, 1000V p-p, 1 μ s; 1ns (tested with noise simulator)
		Static electricity resistance	6kV (using a static electricity simulator)
		Usable atmosphere	No corrosive gases
	Structural	Installation configuration	Panel mount
		Panel Cutout	6.40" (172mm) x 5.35" (136mm) x 2.50" (66mm)
		Weather resistance	IP65
		Outside dimensions (W x H x D)	6.77" (172mm) x 5.35" (136) x 2.60" (66mm)
		Weight	1000g approximate

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Part Numbers & Display Specifications

Part Numbers: Micro/I® HG2A

Item	Part Number	Description
Color HG2A	HG2A-SS22BF	RS232 Host Port
	HG2A-SS22CF	RS485 Host Port
	HG2A-SS22JF	RS422 Host Port
Monochrome HG2A	HG2A-SB22BF	RS232 Host Port
	HG2A-SB22CF	RS485 Host Port
	HG2A-SB22JF	RS422 Host Port
WindO/I®-NV	HG9Z-ZSS2WE	Configuration software for HG Series O/Is (includes Communication drivers for non-IDEC PLCs)



For information on cables see page K-14.

Display Specifications	Device	Color Display	5.5" STN 8-color LCD
		Monochrome Display	5.7" STN monochrome LCD
		Effective Color Display	4.38" (111.34mm) x 3.29" (83.49)
		Effective Monochrome Display	4.53" (115.17mm) x 3.40" (86.37mm)
		Number of Pixels	320 x 240
	Backlight	Light Source	CCFT (cold cathode fluorescent tube)
		Operating Life	10,000 hours
	Memory	BMP files	64K
		Data & Components	215K
		Total	279K
Display Characters	Graphics	Displays any color or bitmap image	

Display Software Specifications	Display Pages	Up to 150 text/graphic pages
	Numeric Data Entry	Pop-up numeric keypad
	Touch Points	Up to 70 touch points per page
	Touch Functions	Toggle digital points on/off, ramp values up/down, change presets, change pages, acknowledge alarms
	Operator Feedback	Visual/audible feedback of touch input
	Buzzer	For alarming purposes
	Text	User-definable as static or dynamic
	Backlight	User definable: backlight can be flashed based on alarm conditions

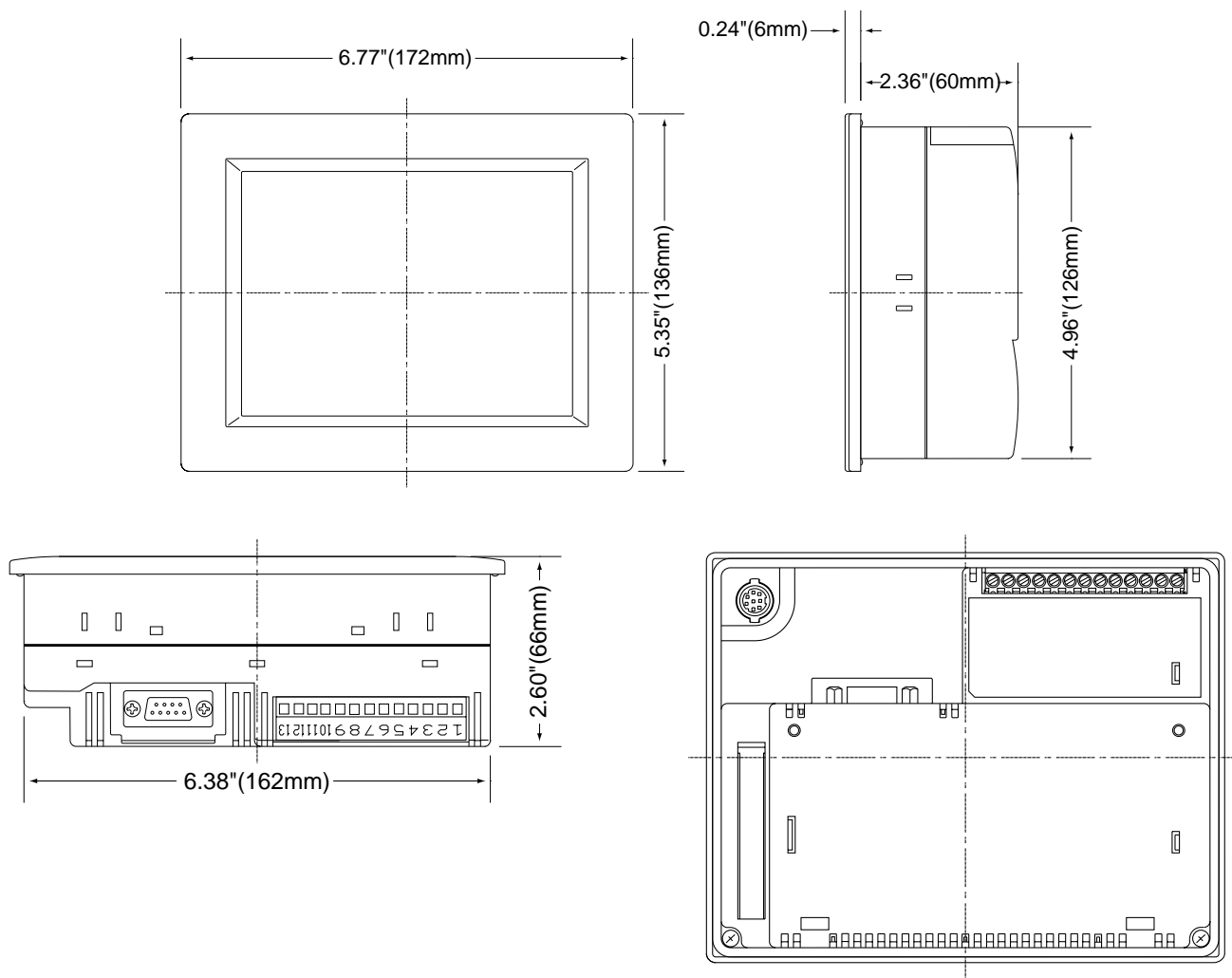
HG2A Drivers

HG2A Drivers (included with software)

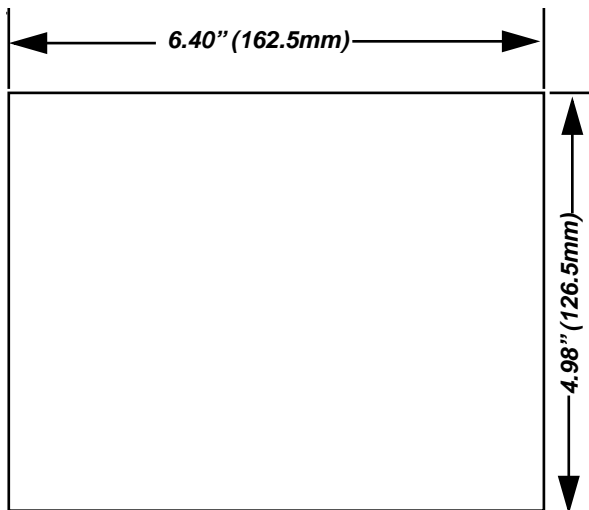
- IDEC
- Allen Bradley
- Omron
- Modicon
- Aromat
- Siemens
- PLC Direct
- Mitsubishi
- Keyence
- GE Fanuc

Dimensions and Panel Layout

Dimensions

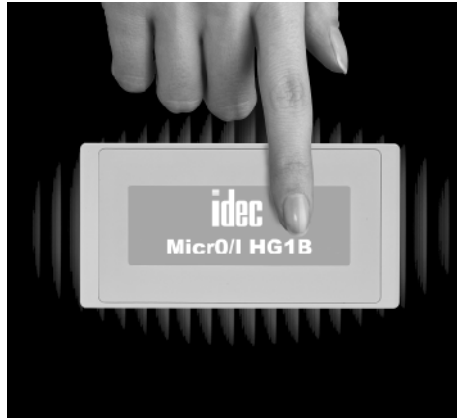


Installation Panel Cutout



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MicrO/I® HG1B Operator Interface



General Specifications	Electrical	Rated voltage	24V DC ripple factor: 10% maximum
		Voltage variation range	85 to 120% of rated voltage
		Power consumption	10W maximum
		Instantaneous stopping time	10ms maximum
		Inrush current	10A maximum
		Dielectric strength	1500V AC, 10 ms, 1 hour (between power or I/O terminal and ground)
		Insulation resistance	In 500V DC megger at least 50MΩ (between power or I/O terminal and ground)
	Environmental	Operating temperature range	0 to 55°C (operation) 0 to 50°C (display contrast)
		Operating humidity range	10 to 90% relative humidity (avoid condensation)
		Storage temperature	-20 to +70°C
		Storage humidity	5 to 90% relative humidity (avoid condensation)
		Vibration resistance	10 to 55Hz, 10 m/s ² (2 hours each in the X, Y, and Z axes)
		Shock resistance	98 m/s ² (5 times each in the X, Y, and Z axes)
		Noise resistance	IEC1000-4-4 compliant Between power terminal and ground: 1k V p-p, 1μs, 1ns (with noise simulator)
		Static electricity resistance	6kV (using a static electricity simulator)
		Operating atmosphere	No corrosive gases
	Structural	Installation	Panel mount
		Protection rating	IP65
		Exterior dimensions (W x H x D)	5.7" x 2.9" x 3.3" (146 x 75 x 85.5mm)
Weight		450g approximate	

Operating Specifications	On-Screen Switches	Operating method	Resistive touch overlay
		Touch points	12 x 4 = 48
		Operating pressure	100g or less
		Life	1,000,000 operations minimum



Part Numbers & Display Specifications

Part Numbers: MicroO/I® HG1B

Item	Part Number	Description
HG1B	HG1B-SB22WF	RS-232C Host /RS-485 Host
	HG1B-SB22JF	RS422 Host
WindO/I®-NV	HG9Z-ZSS2WE	Configuration software for HG Series O/I's (includes Communication drivers for non-IDEC PLCs)



For information or cables see page K-14.

Display Specifications	Device	Display elements	STN blue mode LCD
		Backlight	Blue, or white
		Effective display	3.7" x 1.2" (95 x 31mm)
		Number of pixels	192 x 64
		Pitch	0.5 x 0.5mm
		Pixel size	0.47 x 0.47mm
		Element life	At least 50,000 hours
		Backlight life	At least 20,000 hours
	Character Display	Size	1/4 size: 8 x 8 dots, 1/2 size: 8 x 16 dots, Full size: 16 x 16 pixel
		Number	1/4 size: 24 x 8 lines, 1/2 size: 24 x 4 lines, Full size: 12 x 4 lines
		Types	1/4 size: JIS 8-bit code, IBM code page 437, 1/2 size: IDEC font, Full size: JIS No. 1 standard characters. IDEC font
		Attributes	Vertical/horizontal magnification: 1, 2, 3, and 4 times (except 1/4 size), blinking
	Graphic Display	Graphic elements	Lines, rectangles, circles, arcs, elliptical segments, ellipses, regular polygons (3 to 8 sided), and bitmap images.
Lines		Solid, thick, and dotted (straight lines only)	
Attributes		None	

Display Software Specifications	Display Pages	Up to 100 text/graphic pages
	Numeric Data Entry	Pop-up numeric keypad
	Touch Points	Up to 48 touch points per page
	Touch Functions	Toggle digital points on/off, values up/down, change presets, change pages, and acknowledge alarms
	Operator Feedback	Visual/audible feedback of touch input
	Text	User-definable as static or dynamic
	PLC Support	Communication drivers support most PLCs (see page K-14 for details)
	Alarm Confirmation	Internal buzzer

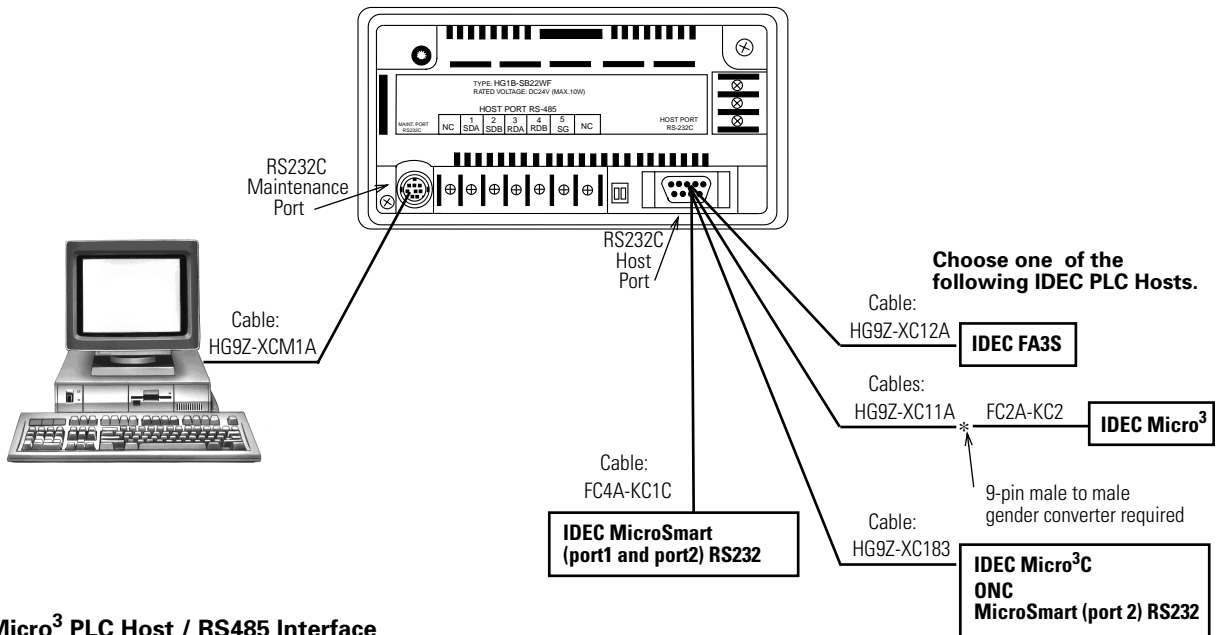
HG1B Drivers

HG1B Drivers (included with software)

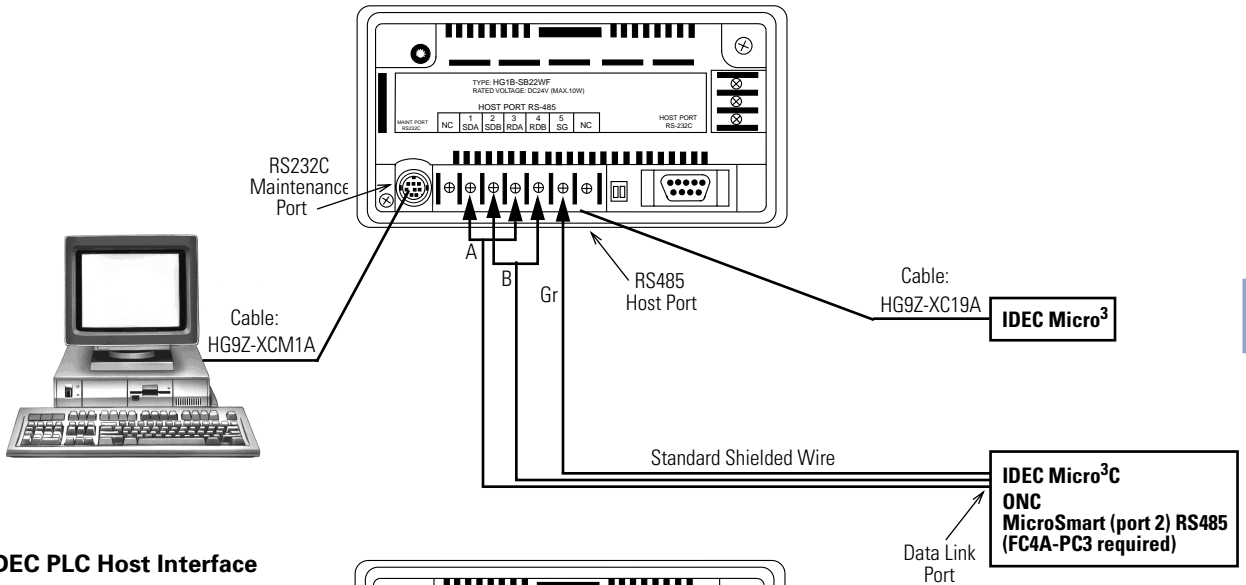
- IDEC
- Allen Bradley
- Omron
- Modicon
- Aromat
- Siemens
- PLC Direct
- Mitsubishi
- Keyence

HG1B Product Configuration

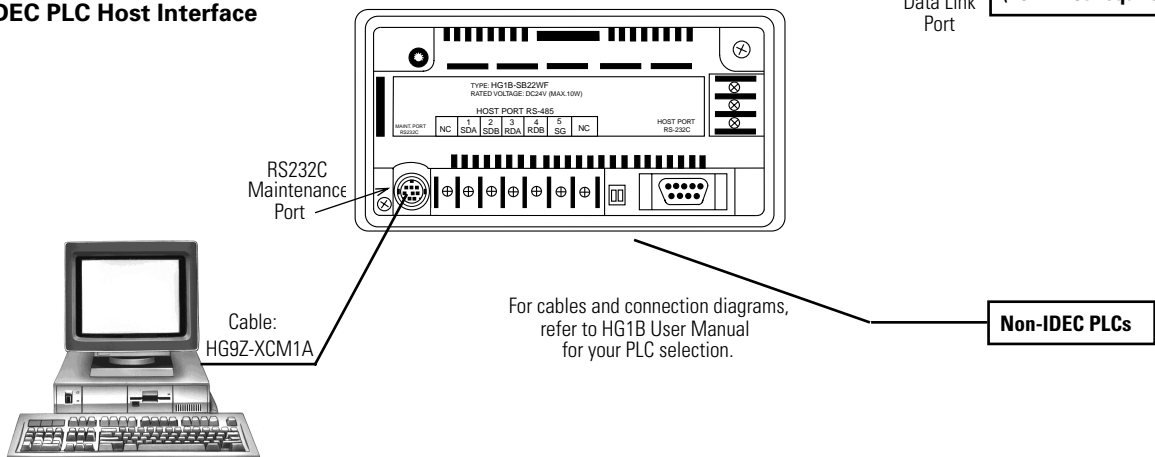
IDEC PLC Host / RS232 Interface



IDEC Micro³ PLC Host / RS485 Interface



Non-IDEC PLC Host Interface

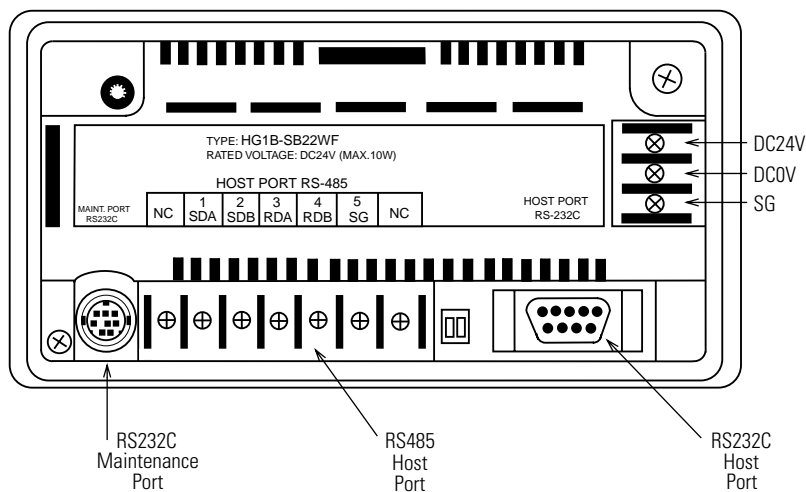


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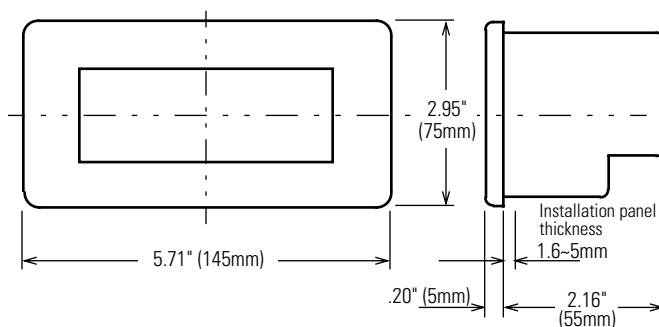
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HG1B Rear View, Dimensions, and Panel Layout

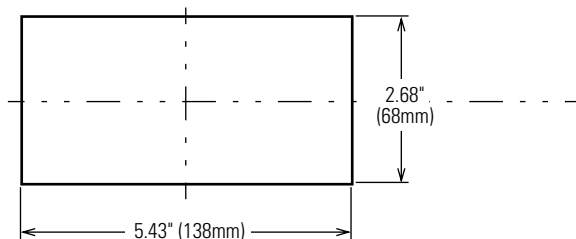
MicroO/I Rear View



Front and Side View Dimensions



Installation Panel Cutout



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MicrO/I® HG2F Operator Interface



Available September 2001



General Specifications

Standards	Safety Standards	UL508, UL1604, CSA CC22.2 No.1010.1, No.213	
		IEC/EN61131	
Electrical	EMC Standards	EN50081-2, IEC/EN61131-2	
	Rated voltage	24V DC	
	Voltage variation range	85 to 120% of the rated voltage (including ripple)	
	Power consumption	10W maximum	
	Momentary Power Interruption	10ms maximum, Level: PS-2	
	Inrush current	20A maximum	
	Dielectric strength	1000V AC, 10 mA, 1 minute (between power terminals and FG)	
	Insulation resistance	50 MΩ minimum (500V DC megger) (Between power terminals and FG)	
Environmental	Operating temperature range	0 to 50°C (no freezing)	
	Operating humidity range	30 to 85% RH (no condensation)	
	Storage temperature	-20 to 60°C (no freezing)	
	Storage humidity	30 to 85% RH (no condensation)	
	Altitude	0 to 2000m (operation) 0 to 3000m (transport) (IEC61131-2)	
	Vibration resistance	10 to 55 Hz, 9.8 m/s ² (2 hours each in 3 axes: IEC60068-2-6)	
	Shock resistance	147 m/s ² , 11 ms (5 shocks each in 3 axe: IEC60062-2-27)	
	Pollution Degree	Pollution degree 2 (IEC60664-1)	
	Terminal	Power supply terminal: M3 screw Tightening torque 0.5 to 0.6 Nm	
Structural	Exterior dimensions (W x H x D)	6.72" (172mm) x 5.35" (136mm) x 2.6" (56mm)	
	Weight	Approx. 800 g	
Noise	Electrostatic Discharge	ESD-3 (RH-1) Level 3 Contact ±6kV Air ±8kV	IEC60801-2 IEC61000-4-2
	Electromagnetic Field	10V/m 0.27M to 500MHz 10V/m AM80% 80M to 1000MHz	IEC60801-3 IEC61000-4-3
	Fast Transient Burst Withstandability	Common mode: Level 3 Power supply: ±2kV Communication line: ±1kV	IEC60801-4 IEC61000-4-4
	Damped Oscillatory Wave	Serial mode Power supply: ± 1kV	IEC60255-4 IEC61000-4-12
	Surge Immunity turning on electricity	Between 500V L-FG	IEC61000-4-5
	Radiated Emission	EN50081-2	

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Part Numbers & Display Specifications

Part Numbers: MicrO/I® HG2F

Item	Part Number	Description
Color HG2F	HG2F-SS22VF	HG2F Color Operator Interface
Monochrome HG2F	HG2F-SB22VF	HG2F Monochrome Operator Interface
WindO/I®-NV	HG9Y-ZSS2W2E	Configuration software for HG2F Series O/I (includes Communication drivers for non-IDEA PLCs)



For information on cables see page K-14.

HG2F Drivers

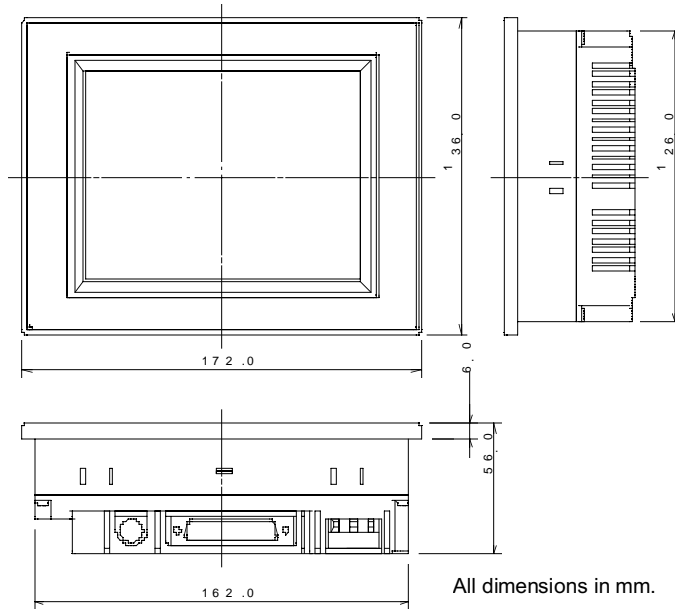
HG2F Driver (included with software)

- IDEC
- Allen Bradley
- Omron
- Mitsubishi

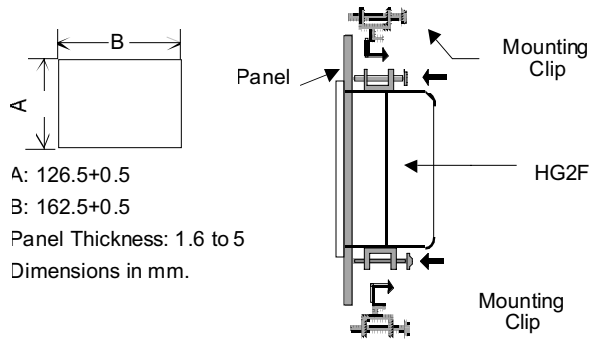
More drivers will be added soon.

Dimensions, and Panel Layout

Dimensions



Installation Panel Layout



Cables & Accessories

HG2A/HG1B Cables

Part Number	Description
HG9Z-XCM1A or FC2A-KC4C	Programming cable for HG2A/1B series (PC to operator interface)
HG9Z-XC12A	Cable between HG2A/1B series (RS232) and FA series IDEC PLC
HG9Z-XC19A	Cable between HG2A/1B series (RS485) and IDEC Micro3 PLC
HG9Z-XC11A or HG9Z-XC14A	Cable between HG2A/1B series (RS232) and IDEC Micro3 PLC (FC2A-KC2 cable is also required)
HG9Z-XC183	Cable between HG2A/1B series (RS232) and IDEC Micro3C/ONC/MicroSmart (port2) PLCs
HG9Z-XC100	Cable between HG2A/1B series (RS232) and AB-SLC 503/504 PLC
FC4A-KC1C	Cable between HG2A/1B series (RS232) and IDEC MicroSmart (port 1 and port 2)
HG9Z-XC300	Cable between HG2A/1B series (RS232) and Aromat FPO PLC
HG9Z-XC400	Cable between HG2A/1B series (RS232) and Koyo dl-240 PLC
HG9Z-XC500	Cable between HG2A/1B series (RS232) and AB-Micrologix PLCs
HG9Z-GWDF1DH485-2	Cable between HG2A/1B series (RS232) and AB-DH485 devices
HG9Z-XC305	Cable between HG2A/1B series (RS232) and Mitsubishi FX2N

HG2F Cables

Part Number	Description
HG9Z-3C115	Cable between IDEC MICRO03 and HG2F, 5m
HG9Z-3C125	Cable between IDEC MICRO03C, MicroSmart, OpenNet Controller and HG2F, 5m
HG9Z-3C135	Cable between RS-232C (25pin, D-sub) for Mitsubishi, Omron, etc. link unit and HG2F, 5m
HG9Z-3C145	Cable between RS-232C (9pin, D-sub) for Mitsubishi, etc. link unit and HG2F, 5m
HG9Z-3C155	Cable between RS-232C (9pin, D-sub) for Omron, etc. RS-232C I/F and HG2F, 5m
HG9Z-3C165	Cable between Mitsubishi A and FX series programming port and HG2F, 5m
HG9Z-XCM22	Programming Cable For HG2F

HG2A/HG1B Accessories

Part Number	Description	
HG2A/1B	HG9Z-2D1	Protective sheet for HG2A
	HG9Z-2C11A	Printer cable for HG2A
	HG9Z-2P101	Digital I/O expansion for HG2A (32 I/O)
	HG9Z-XK	Mounting brackets for HG2A/1B series

HG2F Accessories

Part Number	Description	
HG2F	HG9Z-2D2	Protective Sheet for HG2F (5 pack)
	HG9Z-2K1P	Mounting Clip for HG2F (10 pack)
	HG9Z-2B1	Replacement Backlight for HG2F
	HG9Z-2G1	O/I Communication Link Unit for HG2F
	HG9Z-2P101	Digital I/O Expansion Unit for HG2F

WindO/I®-NV Configuration Software



Key features include:

- Design tool for the IDEC MicrO/I® operator interfaces:
 - HG2A
 - HG1B
 - HG2F
- Windows 95, 98 and Win NT-version 4.0 compatible
- Easy icon driven programming
- Communication drivers for all major PLC brands
- Bitmap and graphic capabilities
- Multiple screen handling capability
- Cut, copy, paste and duplicate options
- Complete and descriptive documentation, including online help

IDEC's WindO/I®-NV is our screen creation software for the MicrO/I® HG1B and HG2A/2F operator interfaces.

WindO/I-NV is used to create projects (programs that incorporate display screens) for the HG1B and HG2A/2F programmable operator interfaces. Running under a Windows environment, a WindO/I-NV designed operator interface displays information, based on a variety of conditions, while accepting user input directly from keypads placed on the screen. This makes using the O/I ideal in a variety of applications — from machine tool control panels to plant monitoring applications.

Using WindO/I-NV is so easy and intuitive because we have eliminated the ladder programming necessary in previous versions of our configuration software. In addition, many of the processes are self-explanatory and guide you from step-to-step as you configure the O/I. The help menus are simple, straightforward, and are a good resource for getting additional information.

Communication drivers are available for Allen-Bradley (DF-1 only), Omron, Modicon, GE Fanuc, Aromat, Siemens, Keyence, and many more brands of PLCs.

Replaces HG9Z-ShellPa Software