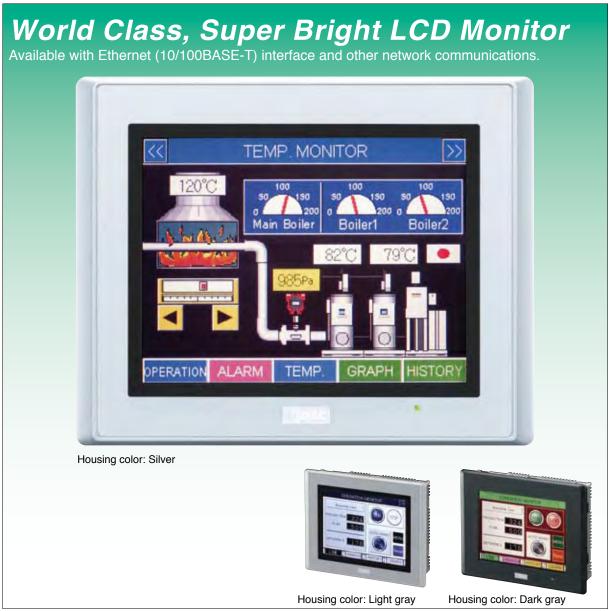


# HG2G 5.7 Operator Interface





# **Enhanced visibility and user-**Stylish design with 3 different



# Super Bright 350 cd/m<sup>2</sup> \*

High contrast, Wide viewing angle

256 colors, Color LCD

Contrast comparison: 1.7 times brighter than competitive models Viewing angle: From top 65°, from bottom 70°, from right/left 55°



# Super Bright 500 cd/m<sup>2</sup> \*

# High-quality monochrome

### 15 brightness levels Monochrome LCD

Contrast comparison: 5 times brighter than competitive models

Viewing angle: From top 25°, from bottom 45°, from left/right 45°.



\*Luminance according to LCD manufacturer's specifications



















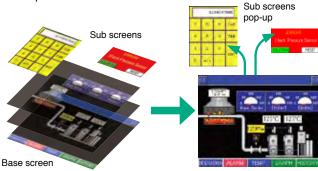
# friendly features. housing colors.

# HG2G Operator Interface

# Easily design and edit screens

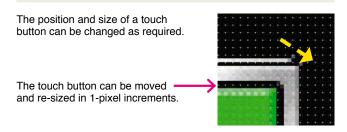
# By overlapping the screens, common graphic images can be shared.

Five base screens can be overlapped onto one base screen and up to three pop-up sub screens can placed on top. Effective design is possible by creating a layout screen and sharing graphics used in multiple screens.



# Flexible screen design

### Button positioning and size can be adjusted.



# Display foreign languages

# Multiple languages can be displayed by using the language change function.

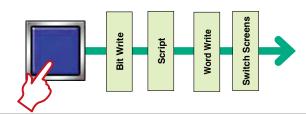
Switch to any of 16 different languages by simple operation. Text can be edited by the text manager of WindO/I-NV2. Text can also be edited using Excel and can be imported using CSV and TEXT files. European, Japanese, Chinese, Taiwanese, Korean, Central European, Baltic, Cyrillic, and Windows fonts can be installed.



# Execute several operations using only one button

# Multi-button functionality allows operation of several functions at the same time.

Up to 32 functions can be set in one button so there is no need to overlap buttons. Bit write, word write, and script commands can be set in one button, reducing design time.



# Complicated operations are strain on the host machine

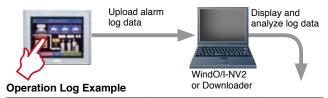
# Complicated operation can be processed inside the HG2G using script functions.

Various operations can be processed inside the HG2G, reducing the strain on the host machine. Conditional statements and functions can be selected and entered from the function list using the script function, allowing beginners to enter functions easily. Syntax check function is also available.

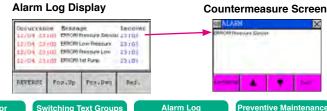
# Solve system errors quickly

# Operation log functions and alarm log functions record operational details.

The Operation Log records information for every operation. This function enables you to check who, when, what, and where an operation was performed. The alarm log function displays an alarm when a system error occurs and stores the log data. These functions help analyze causes and solve problems such as system errors. The log data can be exported as a CSV file.



	Time User Name So		Screen No.	Event Name	Part Name	Device	Changed to
			Change Operation Modes	_	_	Run Mode	
			Change Users	-	_	test1	
	2009/01/23 01:34:08	2009/01/23 01:34:08 test1 Base 1		Switch Base Screens	_	_	Base 1
	2009/01/23 01:34:13 test1 Base 1		Press Buttons	BitSwitch1	_	-	
	2009/01/23 01:34:13	test1	Base 1	Write Data to any Devices	-	LM 0	1



Features

System Software Download

Download

Download

Simulation

Overlapping Screens

Download via Ethernet

Pass-through Function

Popup Screen Superimpose Function

Trigger Condition Setting

Operation Log Function

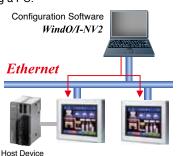
Password Setting

# Adaptable to various communication systems for flexible system architecture.

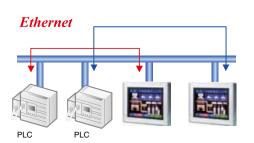
### Ethernet Connection

HG2G maintenance is possible using a PC located in a remote location. Communicates with PLCs via host communication.

Screen display data can be changed and data can be analyzed from remote locations using a PC.



Connected to a PLC that can be used via Ethernet. Flexible system architecture. Both 1:1 communication and N:N communication are possible.



(Ethernet Communication Drivers) IDEC: Web Server Unit (FC3/FC4/FC5 series) MELSEC-Q/QnA (Ethernet) Mitsubishi: Ethernet/IP A-B: Modicon: Modbus/TCP Koyo: DirectLogic

When connecting several PLCs, the PLCs must use the same ethernet protocols.

### **Serial Connection**

Connects to a variety of devices such as PLCs, computer boards, and barcode readers.

### **PLC Link Communication**



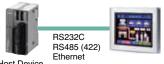


### **DM Link Communication**

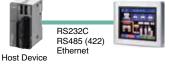
for DM link communication.



Data can be read from and written to PLC devices, such as relays and registers. Various communication device drivers are available.



PC, PLC, and computer boards can access the DM link memory in the HG2G to read and write data. 1:1 and 1:N communication systems are possible. Because a proprie-



BS232C RS485 (422)



tary communication protocol is used for the HG2G, the host requires a special program







Host device such as PC, PLC, and computer board

1:1 Communication

Host device such as PC, PLC, and

RS232C RS485 (422)

\*Only one HG2G can be connected using RS232C

O/I Link Communication



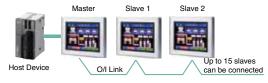
**User Communication/Sub Host Communication** 







Up to 16 HG2G units can be connected with the O/I link at a communication speed of 115.2 kbps.



O/I link unit is not required for the HG2G slave. Operator interfaces other than HG2G cannot be connected.

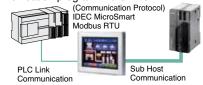
### **User Communication**

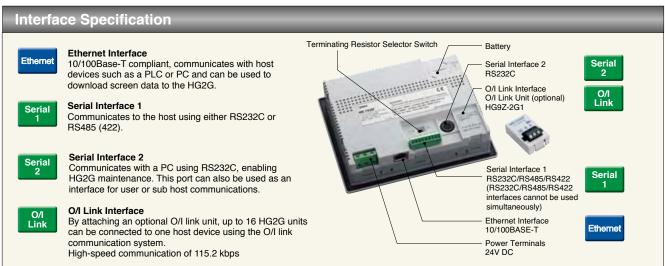
Connect to serial communication devices such as barcode readers.



# **Sub Host Communication**

A communication method for reading and writing data from and to devices such as PLC relays and registers. Using Sub Host Communication with PLC Link Communication makes it possible to communicate with two PLCs without making a communication program in the PLC





# User-friendly features enable easy graphical screen editing.

# **Application Software**



# Automation **Organizer**

Automation Organizer is a complete package software to create system configuration and edit and debug programs for PLCs and operator interfaces. Automation Organizer consists of system configuration software "WindCFG," PLC programming software "WindLDR," and OI touchscreen programming software "WindO/I-NV2."

# WindO/I-NV2

# **OI Touchscreen Programming Software**

# Flexible workspace allows for dynamic screen design

# Project Window

Structure of projects: such as screen, project, alarm log, and text managers are easy to recognize and settings are easy to edit.

Created screens can be seen as images, making it easy to open screens that need editing.



Device addresses of the connected PLC and HG series are displayed. A tag name can be set to each address and the name can be changed by the user.

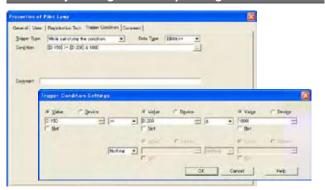
### Part List

Button and lamp parts can be displayed. Layout is possible by using drag and drop methodology.

### **Object List**

Device, operating condition, and type of command can be read from this list. A property can also be changed by selecting the item.

### Easy Setting of Parts Operating Conditions



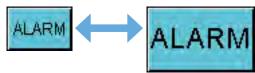
The operating conditions of buttons and lamps, bit/word write, and screen switching can be set in the property settings for each part. Lamps can be easily set to turn on, turn off, or flash.

# elect from 5000 images in the image library



Various graphic images can be selected from WindO/I-NV2 configuration software and Symbol Factory, a graphic library containing 5000 images.

### Automatic Adjustment of Text Size



The text size is automatically adjusted according to the size of the object such as a button nameplate. The text size fits in the object even when the language is switched from English to a different language.

Easy to confirm the screen image before and after switching screens and texts on the WindO/I-NV2 screen. Powerful screen editing.

Preview (when off)



Preview (when on)



### **Download Service**

Latest versions of WindO/I-NV2, host interface drivers, and user's manual can be downloaded from the IDEC website. Update your HG2G system software by downloading the latest functions using WindO/I-NV2.

http://www.idec.com/download

# HG2G Operator Interface

# **Brightest LCD in its class.**

# Can be used with various interfaces including Ethernet.

- · Super-bright LCD.
- Can be seen clearly—even in bright locations.
- Ethernet communication is available.
- Easy system configuration with various communication systems, such as PLC link communication.
- Easy-to-use design tool WindO/I-NV2
- Slim body style—only 35.9mm deep behind the panel (housing)
- Components can be laid out easily on the analog touch panel.
- Light gray, dark gray, and silver housing colors are available.
- Multi-lingual fonts can be displayed by switching text groups.
- Operation log function is provided.





# **Types**

Display Screen	Operation Type	Maintenance Interface	Host Interface	Ethernet Interface	Housing/Bezel Color	Type No.	Remarks
					Light gray	HG2G-SB22TF-W	
				With	Dark gray	HG2G-SB22TF-B	
5.7-inch STN		ch RS232C			Silver	HG2G-SB22TF-S	
monochrome LCD 15 shades	- Analog switch		RS232C/485 (422) Detachable 9-pin terminal block	Without	Light gray	HG2G-SB22VF-W	
					Dark gray	HG2G-SB22VF-B	
					Silver	HG2G-SB22VF-S	CE
				With	Light gray	HG2G-SS22TF-W	
					Dark gray	HG2G-SS22TF-B	
5.7-inch STN					Silver	HG2G-SS22TF-S	
color LCD 256 colors					Light gray	HG2G-SS22VF-W	1
				Without	Dark gray	HG2G-SS22VF-B	
					Silver	HG2G-SS22VF-S	

### Options

Name	Ordering Type No.	Package Quantity	Description
Protective Sheet	HG9Z-2D2	5	For HG2G
PLC Connection Cable For IDEC MicroSmart (5m)	HG9Z-XC275	1	Mini DIN 8-pin
PLC Connection Cable For IDEC MicroSmart (2.4m)	FC2A-KP1C	1	Mini DIN 8-pin
O/I Link Unit	HG9Z-2G1	1	Communication unit for O/I link
Maintenance Cable	HG9Z-XCM22	1	Dsub 9-pin (socket) (2m long) Computer link cable 4C (FC2A-KC4C) for IDEC's MicroSmart and OpenNet Controller is also compatible.
Application Software "Automation Organizer" (CD) (English/Japanese/Chinese)	SW1A-W1C	1	Complete package includes Wind CFG system configuration software, WindLDR PLC programming software, and WindO/I-NV2 OI Touchscreen programming software. PDF files of English/Japanese/Chinese manuals are stored on the CD.
Manual "WindO/I-NV2"	HG9Y-B1119	1	English

# Replacement Parts

		0 1 · T N	Package	<b>.</b>
Name	Type No.	Ordering Type No.	Quantity	Description
Mounting Clip	SLD-K02	SLD-K02PN10	10	Four clips are supplied with HG2G.
Replacement Battery	HG9Z-XR1	HG9Z-XR1	1	Lithium battery CR2032 (one battery is supplied with HG2G)
Host communication plug	HG9Z-XT09	HG9Z-XT09	1	One plug is supplied with HG2G.

# **General Specifications**

Rated Power Voltage	24V DC		
Power Voltage Range	20.4 to 28.8V DC		
Power Consumption	10W maximum		
Allowable Momentary Power Interruption	10 ms maximum		
Inrush Current	20A maximum		
Dielectric Strength	1000V AC, 10 mA, 1 minute between power and FG terminals		
Insulation Resistance	50 M $\Omega$ 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 (IEC 60664-1)		
Vibration Resistance	5 to 9 Hz amplitude 3.5 mm, 9 to 150 Hz, acceleration 9.8 m/s <sup>2</sup> 10 cycles (100 minutes) on each of three mutually per- pendicular axes) (IEC60068-2-6)		
Shock Resistance	147 m/s², 11 ms 5 shocks on each of three mutually perpendicular axes (IEC60062-2-27)		
Noise Immunity	Fast transient/burst test, Common mode: Level 3, Power terminals: ±2 kV, Communication line: ±1 kV (IEC 61000-4-4)		
Electrostatic Discharge	ESD-3 (RH-1), Level 3 (contact ±6 kV, air ±8 kV) (IEC 61000-4-2)		
Corrosion Immunity	Free from corrosive gases		
Mounting	Panel mounting		
Degree of Protection	IP65 (operator)		
Dimensions	167.2W × 134.7H × 40.9D mm		
Weight (approx.)	500g		

Do not use the HG2G in an environment subject to strong ultraviolet rays, otherwise the LCD quality will deteriorate.

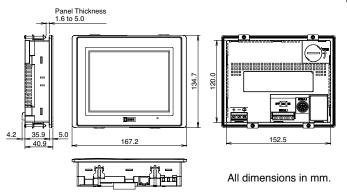
# **General Specifications**

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, sub screen, system screen
No. of Screens	Base screen: 3000 max. Sub screen: 3015 max.
User Memory	2 MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen, Print Button, Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, Character Input, Pilot Lamp, Multi-State Lamp, Picture Display, Message Display, Message Switching Display, Alarm List Display, Alarm Log Display, Numerical Display, Bar Graph, Trend Chart, Pie Chart, Meter, Calendar, Bit Write Command, Word Write Command, Goto Screen Command, Print Command, Screen Script Command, Multi Command, Timer
Calendar	Year, Month, Day, Hour, Min., Sec., Day of Week ±60 sec per month (at 25 °C)
Power Failure Backup Data	Calendar, log data, keep internal relay, keep internal register
Battery Life	4 years (at 25°C)

# **Dimensions**



# **Display Specifications**

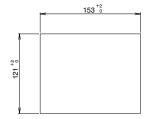
Display Color		Monochrome	Color			
Effective Dis	play Area	Monochrome STN	Color STN			
Color/Shade		Monochrome 15 shades	256 colors			
Effective Dis	play Area	115.2W × 86.4H mm				
Display Reso	olution	320W x 240H pixels				
Contrast Adj	ustment	Possible in steps				
Backlight		Cold-cathode tube				
Backlight Life	)	75,000 hours nominal (Note)				
Backlight Co	ntrol	Automatic OFF				
Backlight Re	placement	Impossible (by IDEC only)				
	1/4 size	Central European language: A	8 x 8 pixels (Western European language: ISO 8859-1, Central European language: ANSI 1250, Baltic: ANSI 1257, Cyrillic: ANSI 1251, Japanese katakana and symbols: JIS 8-bit code)			
Display Character Size	1/2 size	8 x 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)				
Size		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)				
	1/4 size	40 characters × 30 lines				
Quantity of	1/2 size	40 characters × 15 lines				
Characters	Full size	20 characters × 15 lines				
	Double size	10 characters x 7 lines				
Character Ma	agnification	0.5, 1, 2, 3, 4, and 8 vertically	and horizontally			
Character At	tribute	Blink (1 or 0.5 sec period), rev				
Graphics Typ	ре	Straight line, polyline, rectangle, circle, ellipse, arc, pie, equilateral polygons (3, 4, 5, 6, 8), paint, bitmap image				
Window Disp	olay	3 popup screens + 1 system screen				

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

# **Interface Specifications**

		Electrical Characteristics	EIA RS232C compliant	
	O	Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps	
	3232C	Synchronization	Asynchronous	
	RS	Communication Method	Half or full duplex	
		Control System	Hardware control or none	
Serial		Connector	Detachable 9-pin terminal block	
Interface 1		Electrical Characteristics	EIA RS485 (422) compliant	
	3422	Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps	
	½	Synchronization	Asynchronous	
	RS485/RS422	Communication Method	Half or full duplex	
		Control System	Hardware control or none	
		Connector	Detachable 9-pin terminal block	
	Electrical Characteristics		EIA RS232C compliant	
0	Transmission Speed		9600, 19200, 38400, 57600, 115200 bps	
Serial Interface 2	Synchronization		Asynchronous	
interidoe E	Communication Method		Half duplex, proprietary protocol	
	Connector		Mini DIN 8-pin connector	
	Ele	ctrical Characteristics	EIA RS485 compliant	
O/I Link	Tra	nsmission Speed	19200, 38400, 57600, 115200 bps	
Communi-	Syr	nchronization	Asynchronous	
cation	Cor	mmunication Method	Half duplex, proprietary protocol	
	Cor	nnector	3-pin terminal block	
Ethernet	Inte	erface	IEEE802.3 (10/100BASE-T) compliant	
Eulemet	Cor	nnector	Modular connector (RJ-45)	

# **Panel Cut-out**



 Install the HG2G into a panel cutout by tightening the four mounting clips to a torque of 0.12 to 0.15 N·m (recommended tightening torque: 0.14 N·m).

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

### Compatible PLCs

Manufacturer	Series	Applicable CPU Unit	CPU Connec- tion	Link Unit	Ether- net
	OpenNet	FC3A-CP2	√		√
	Controller	FC4A-C10R2	√		√
IDEC	MicroSmart	FC4A-C16R2/C24R2, FC4A-D20K3/D20S3, FC4A-D20K1/D20RS1, FC4A-D40K3/D40S3	√	√	√
	MicroSmart Pentra	FC5A-C10R2/C16R2, FC5A-C24R2, FC5A-C10R2C/C16R2C, FC5A-C24R2C	<b>√</b>	<b>√</b>	√
		FC5A-D16RK1/D16RS1 FC5A-D32K3/D32S3	√	√	√
		A1N, A2N, A3N, A1SH	,	√	
	MELSEC-A	A2CCPUC24 A0J2, A0J2H, A2A, A3A, A2U, A3U, A4U, A2US, A2USH-S1	√	√	
	MELSEC-QnA	Q4ACPU, Q4ARCPU, Q3ACPU, Q2ACPU, Q2ACPU-S1		√	√
Mitsubishi		Q2ASHCPU, Q2ASHCPU-S1, Q2ASCPU, Q2ASCPU-S1	,	√	√ /
IVIIISUDISIII		Q00CPU, Q01CPU	٧./	√	√ √
	MELSEC-Q	Q02CPU, Q02HCPU Q06HCPU, Q12PHCPU,	v	√	√
		Q25HCPU			√
	MELSEC-FX	FX0, FX0N, FX1, FX2, FX2C,	√		V
		FX-0S, FX-1S FX2N, FX2NC, FX1N, FX1NC	1/	1/	
		FX3UC, FX3U	v √	√	
	SYSMAC-C	C500, C500F, C1000H, C1000HF, C2000, C2000H, C200HS, C200HE, C200HG, C200HX, C120, C120F		√	
OMRON		C20H, C28H, C40H, C60H, CQM1H, C200HS-CPU21/23/31/33, C200HE-CPU42, C200HG-CPU43/63, C200HX-CPU44/64	√	,	
		CPM1, CPM1A	,	√ √	
	070740 004	CPM2A	√ √	٧./	
	SYSMAC-CS1 SYSMAC-CJ	CS1G, CS1H	٧ ./	ν	
	SYSMAC-CP	CJ1M, CJ1H, CJ1G CP1H	v	√	
	PLC-5	Any PLC-5 models connect- able to 1770-KF2 Any PLC-5	<b>√</b>	√	
		PLC-5, PLC-5E			√
	SLC-500	SLC5/03, SLC5/04 SLC5/05	√		√ √
Allen- Bradley	MicroLogix	MicroLogix1000 MicroLogix1100 MicroLogix1200 MicroLogix1500	√		<b>√</b>
	ControlLogix	ControlLogix5550 ControlLogix5555			
	CompactLogix	1768CompactLogix 1769CompactLogix	√ √		
	FlexLogix	1794-L33, 1794-L34	√		
	S7-200	CPU212, CPU214, CPU215, CPU216, CPU221, CPU222, CPU224, CPU226 CPU224XP, CPU226XM	√		
SIEMENS	S7-300	CPU313, CPU314, CPU315, CPU315-2DP, CPU316, CPU318 CPU313C-2PtP	<b>√</b>	√	
	S7-400	CPU412, CPU414, CPU416, CPU416F-2, CPU417	·	√	

Manufacturer	Series	CPU Unit	CPU Connec- tion	Link Unit	Ether- net
		KV-700, KV-1000	√	√	
Keyence	KZ	KZ-10, 16, 20, 40, 80	√		
	KV	KV-10, 16, 24, 40	· ·		
		JW-10	√		
		JW-21CU, JW-31CUH/H1,		√	
		JW-50CU/CUH			
Sharp	New Satellite JW	JW-22CU, JW-32CUH/H1,			
		JW-33CUH/H1/H2/H3,	√	√	
		JW-70CU/CUH,			
	S10mini	JW-100CU/CUH S10mini			
Hitachi	S10V	LQP510	√	√	
JTEKT	TOYOPUC-PC2J	PC2J	√		
(TOYODA)	TOYOPUC-PC3J	PC3J, PC3JD, PC3JG	<b>√</b>		
(TOTODA)	TC200	TC3-13B1			
Toshiba	TCmini	TC03-01, TC03-02	√		
	TOITIIII	CPU311, CPU313, CPU323	√		
GE		CPU331, CPU341, CPU350,	V		
Fanuc	Series 90-30	CPU351, CPU352, CPU360,	√	√	
Automation		CPU363, CPU364, CPU374		*	
	VersaMax	Nano Micro (14, 23, 28 points)	√		
	İ	TWDLCAA16DRF		,	
Schneider	Twido	TWDLCAA24DRF		√	
Modicon	Momentum	171CCC96020			√
	İ	FP0, FP10, FP10SH, FP1,	√		
Panasonic	FP series	FP2, FP2SH, FPΣ	ν		
Vaakawa	Machine	MP920, MP930, MP2300	√	√	
Yaskawa	Controller	WF920, WF930, WF2300	v	٧	
	DirectLOGIC05	DL05			
	DirectLOGIC06	DL06			√
	DirectLOGIC205	D2-240, D2-250, D2-250-1,			v
Koyo	DirectLOGIC203	D2-260			
Royo	KOSTAC SZ	SZ-4	√		
	KOSTAC SU	SU-6H	√		
		SU-5E, SU-6B	√	√	√
		SU-5M, SU-6M		√	√
	Power Mate	Power Mate-MODEL D	,		
FANUC	Series	16i, 160i, 18i, 180i	√		
	001100	30i, 31i, 32i			
		FA-M3		√	
		(F3SP20, F3SP28, F3SP30,		٧	
V-1	FACTORY ACE	F3FP36, F3BP20, F3BP30) FA-M3			
Yokogawa	FACTORT ACE	(F3SP05, F3SP21, F3SP25,			
		F3SP35, F3SP38, F3SP53,	√	√	
		F3SP58)			
		NB1, NB2, NB3, NJ-CPU-E4,	,	,	
	FREX-PC	NJ-CPU-A8, NJ-CPU-B16, NS	√	√	
Fuji		F30, F50, F50H, F55, F60,			
ruji	MICREX-F	F70, F70S, F80H, F81,		√	
	WIICHEX-F	F120H, F120S, F140S,		٧	
		F150S, F250			
		T1-16, T1-28, T1-40, T1-40S,	√	√	1
	PROSEC	PU234E		•	-
	T Series	PU224, PU215N, PU235N,	√		
		PU245N, PU315, PU325,	\ \ \ \ \		
Toshiba		PU325H, PU326H PU672T, PU662T, PU612E			
		L1PU11H, L1PU12H,			1
	V Series	S2PU82, S2PU72, S2PU32,	√		1
		S2PU22, S3PU65, S3PU55,	'		1
		S3PU45, S3PU21			
LS		K10S1, K120S	√		İ
Industrial	MASTER-K	K80S, K200S	√	√	

<sup>·</sup> Ethernet link unit may be necessary for some PLCs.

The updated information of the compatible PLCs can be found at the following website.

http://www.idec.com/download

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Safetey Precautions

Read the safety precautions described in the user's manual to make sure of correct operation of the HG2G.

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



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