IDEC

Think Automation and beyond...

Temperature Display Setting

SET DEVICE

ACTUAL TEMP

44.2 °C

SET TEMP

44 °C

MENU

RUN

TEMP

DATA

ALERT

IDEC

IDEC HG1G 4.3" Touchscreen
Bright displays. Enhanced functions.

Bright Display, Long Lifespan, Enhanced Functions!

All the capabilities of a larger screen!

With a 4.3" LCD screen size first popularized by gamers, the new HG1G TFT color LCD display delivers technologically-advanced features including the industry's leading brightness and a best-in-class LED backlight lifespan all at an amazing value. With remote monitoring and control, an FTP function and support for multiple communications, HG1G is flexible and small enough to fit a tight space, and priced to fit a tight budget!

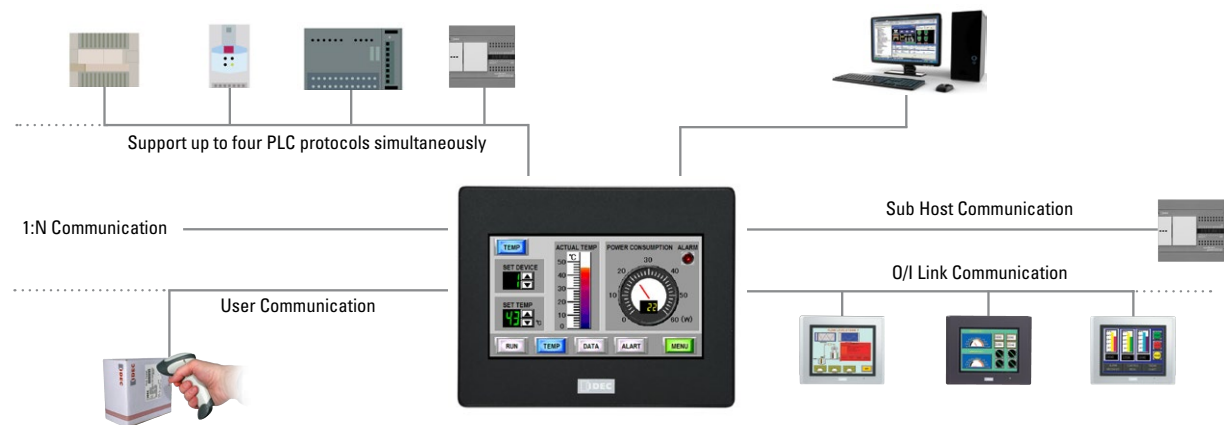## At 800cd/m^2 the HG1G is the brightest on the market

A 65,536-color TFT LCD display offers a high resolution of 480 x 272 pixels, providing realistic image quality. When it comes to pixel resolution, more is better!.

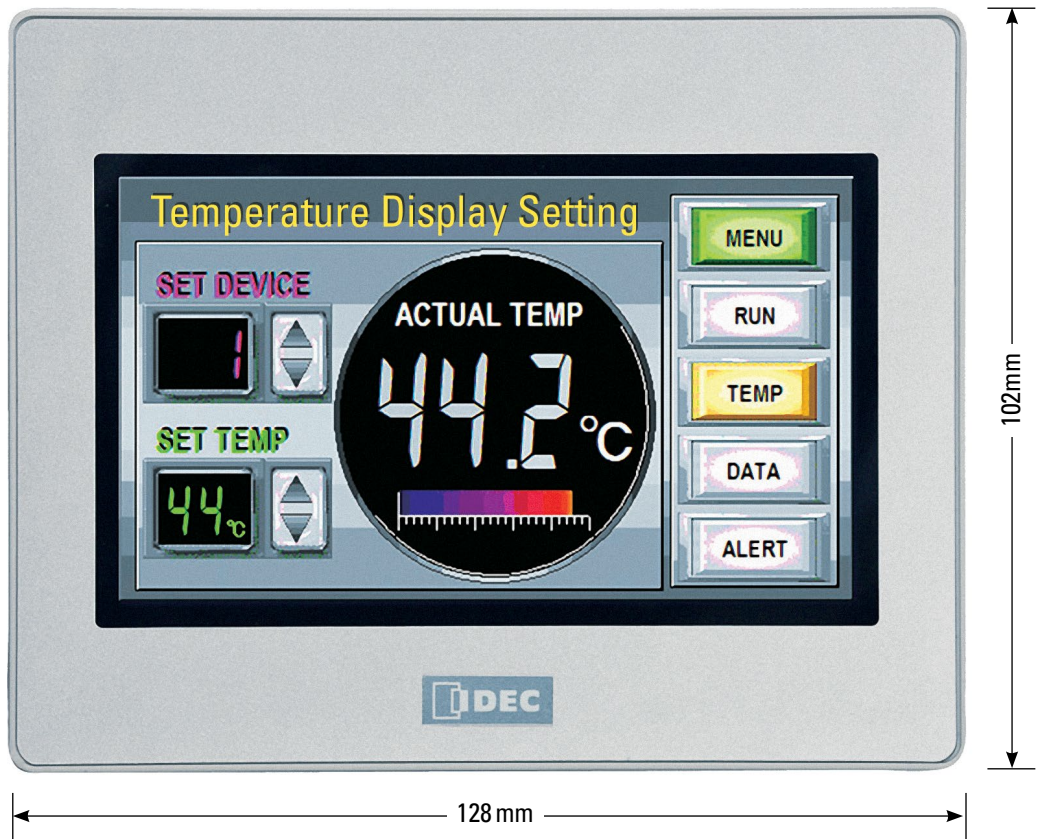A super-bright LCD display provides a brightness of 800cd/m^2.

Readable even in direct sunlight, HG1G ensures excellent visibility whether your application is located indoors or outdoors.

Flexible connectivity (multiple protocols)

Designed to meet all your communication requirements, the compact 4.3" HG1G series supports multiple protocols—up to four PLC protocols simultaneously. Using one HMI to communicate with different brands (or manufacturers) of PLCs in a system saves time and money. The HG1G acts as a communication gateway between multiple devices allowing data to easily pass between devices. IDEC supports over 100 Serial and Networking drivers, including Modbus RTU Master/Slave and Modbus TCP/IP.

Support up to four PLC protocols simultaneously

1:N Communication

User Communication

Sub Host Communication

O/I Link Communication

Actual Size

102 mm

128 mm

Temperature Display Setting

SET DEVICE

SET TEMP

ACTUAL TEMP

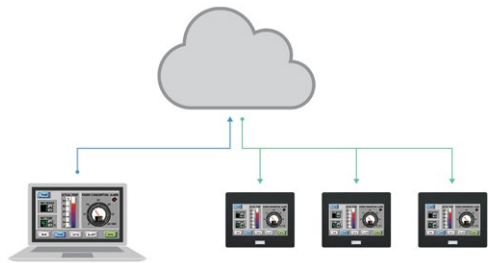44.2 ℃

MENU
RUN
TEMP
DATA
ALERT

4.6"

4.3"

HG1F

HG1G

Remote access monitoring and control

With this function, you can remotely control and monitor your IDEC HG1G anytime, anywhere using a PC, PDA or smartphone. No additional software tools or modules are needed to use the Remote Monitor and Control function.

FTP communication

Support for industry-standard FTP communications allows users to transfer projects, data log, picture, sound and movie files between the HG1G HMI and a PC without having to load the IDEC software on the PC. This greatly simplifies HMI and PLC program updates as it's no longer necessary to have the IDEC software installed on multiple PCs throughout a facility or a company.

Long LED backlight life

An LED backlight life of over 70,000 hours provides many years of operation, extended by the fact the backlight can be automatically switched off when the HMI is not in use.

Easy data transfer

Project files can be transferred between a USB memory stick and the HMI. It is a quick and convenient way for an OEM to program multiple units and for users to quickly update both ladder and HMI programs. Data Logging, Alarm Log, Recipe and Screen Capture data can be stored in the USB flash drive as well.

USB

IDEC

Excellent Environmental Resistance

The HG1G 4.3" screen is built with outstanding environmental tolerance and a wide range of operating temperatures from -20 to 55 degrees C. This HMI also comes with new approval ratings, including the addition of UL 508, IP66F/IP67F ratings, Type 4X and Type 13 approvals (on the front panel) to allow for installation outdoors or indoors in wash-down areas. This makes HG1G unit suitable for installation in Class 1, Division 2 hazardous locations and for applications in harsher environmental conditions (see images).

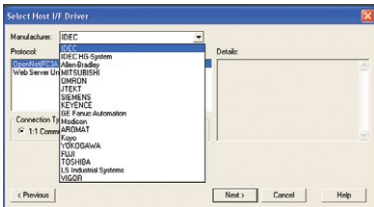Harsh wet environments

Waste water treatment plants

Oil and Gas

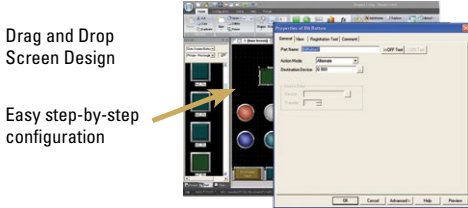Packaging and bottling plants

Software

It's as easy as 1, 2, 3!

1 Create

Creating a project is simple! Just name a project file and select your parameters (OI Type and model, protocol type, and optional settings).

2 Configure

Select a functional part and assign a device address. The other tabs allow you to change image, color, or add more parameters.

Drag and Drop Screen Design

Easy step-by-step configuration

3 Download

Once your project is ready to be downloaded to the touchscreen, select "Online" and then "Download." You can now debug or monitor your program as needed. It's as simple as that!

Easy-to-use programming software

Automation Organizer (AO), the IDEC software suite combining the latest versions of our PLC programming software (WindLDR) and HMI programming software (WindO/I-NV2), (WindO/O-NV3) and (WindO/I-NV4) with system configuration software (WindCFG) , enables users to see the layout of the system design and basic configuration of devices. AO software gives users a powerful and easy-to-use tool to design, debug and document control systems, saving valuable time and money.

WindO/I-NV4 is the only software needed to program IDEC HMIs. Users can easily display alarm screens, trend and bar graphs, scrolling texts and meters. With a built-in symbol library containing thousands of industry-standard bitmap images, creating a professional interface is just a click away.

Extensive Image Library

A built-in symbol library provides over 7,000 bitmaps to help you create cutting-edge graphical screens. Image data from BMP and JPG files can also be imported.

WindO/I-NV4

WindO/I-NV4 is included in IDEC's software package "Automation Organizer"

4.3-inch Operator Interface HG1G Series

OPERATOR INTERFACE PART NUMBERS

Display screen	Operation Style	Communication	Bezel color	Part Number
4.3-inch TFT color LCD 65,536 colors	Touchscreen (analog resistive)	COM LAN USB 1 USB 2	Black	HG1G-4VT22TF-B
			Silver	HG1G-4VT22TF-S

SPECIFICATIONS
General Specifications

Electrical Specifications	Rated Power Voltage	12-24V DC
	Power Voltage Range	10.2 to 28.8V DC
	Power Consumption	8W maximum 4W maximum when not using USB interface (USB2)
	Allowable Momentary Power Interruption	10ms maximum (voltage 20.4 to 28.8V DC) 1ms maximum (voltage 10.2 to 20.4V DC)
	Inrush Current	40A maximum
	Dielectric Strength	1,000V AC, 10mA, 1 minute between power and FG terminals
Environmental Specifications	Operating Temperature	–20 to +55°C (no freezing)
	Operating Humidity	10 to 90% RH (no condensation)
	Storage Temperature	–20 to +70°C (no freezing)
	Storage Humidity	10 to 90% RH (no condensation)
	Pollution Degree	2
	Vibration Resistance	5 to 8.4Hz amplitude 3.5 mm, 8.4 to 150Hz, acceleration 9.8m/s² 10 cycles (100 minutes) on each of three mutually perpendicular axes
	Shock Resistance	147m/s², 11ms 5 shocks on each of three mutually perpendicular axes
	Noise Immunity	Fast transient/burst test, Power terminals: ±2kV, Communication line: ±1kV (IEC/EN 61131-2, IEC/EN 61000-4-4)
	Electrostatic Discharge	Contact ±6kV, air ±8kV (IEC/EN 61131-2, IEC/EN 61000-4-2)
	Corrosion Immunity	Free from corrosive gases
Structure	Mounting	Panel mounting (panel thickness: 1.0 to 5.0mm)
	Degree of Protection	IP66F/IP67F (IEC 60529, JIS C0920) (see JIS C 0920 Annex 1 for "F") (front part when mounted) *1 IP65F/IP67F when panel thickness is below 1.5mm TYPE 4X TYPE 13 *2, Class I Div 2
	Dimensions	128 W ×102 H × 31.8 D mm
	Weight (approx.)	300g

• Do not use the HG1G 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.
*2: Operation not guaranteed under environments using certain types of oils.

PRODUCT DESCRIPTION

The super-bright, compact 4.3-inch HG1G has most of the features and functionalities found in a larger screen, including monitoring and control via PC, tablet or smartphone. It supports multiple protocols simultaneously, FTP Server function and best-in-class LED backlight life of 70,000 hours. HG1G can be mounted in portrait or landscape to fit your needs. It also supports a wide range of operating temperatures from -20 to 55 degrees C, and is rated IP66F/IP67, Type 4X & Type 13, and Class 1 Div 2. It's flexible and small enough to fit in a tight space, and priced to fit a tight budget.

KEY FEATURES

• Supports up to four protocols simultaneously
• Remote monitor and control
• FTP Server Function
• Operating temperatures: -20°C to 55°C
• 65,536 colors with 800cd/m²
• 480 x 272 Pixel Resolution
• LED backlight lifespan: >70,000 hours
• Portrait and landscape mounting
• Rated power voltage: 12-24V DC
• Two Serial ports, 2 USB ports and an Ethernet port
• IP66F/IP67F, Type 4X, Type 13, Class 1 Div 2

Compact HG1G Specifications

Display Specifications

Display	TFT color LCD
Color/Shade	65,536
Effective Display Area	95.04 W × 53.836 H mm
Display Resolution	480 W × 272 H pixels
View Angle	Right and left 70°, up 60°, down 65°
Backlight	White LED
Backlight Life	70,000 hours *1
Brightness	800cd/m^2 *2
Brightness Adjustment	32 levels
Backlight Replacement	N/A

*1 Backlight life refers to time until the brightness reduces by half. It is an expected value after use at 25°C and not guaranteed. Actual backlight life depends on the operating environment and conditions.
*2 Brightness of LCD when operating condition is 25°C.

Operation Specifications

Switching Element	Analog resistive membrane
Operating Force	3N maximum
Mechanical Life	1,000,000 operations
Acknowledgement Sound	Electronic buzzer

Function Specifications

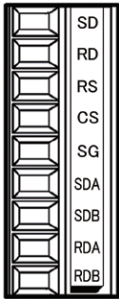| Screen Types	Base screen, popup screen, system screen
No. of Screens	Base screen: 3,000 max. Popup screen: 3,015 max.
User Memory	12MB (including expansion fonts)
Parts	Bit Button, Word Button, Goto Screen,Print Button Key Button, Multi Button, Keypad, Selector Switch, Potentiometer, Numerical Input, 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 ±90 sec per month (at +25°C)
Power Failure Backup Data	Calendar, log data, keep internal relay, keep internal register
Battery	Recommended replacement time: every 5 years (at +25°C)

Interface Specifications

Serial Interface 1 (COM1) *1	RS232C	Electrical Characteristics	EIA RS232C compliant
		Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500 bps
		Synchronization	Asynchronous
		Communication Method	Half or full duplex
		Control System	Hardware control or none
	RS422/485	Electrical Characteristics	EIA RS422/485 compliant
		Transmission Speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 187500bps *2
		Synchronization	Asynchronous
		Communication Method	Half or full duplex
		Control System	None
	Connector		Detachable 9-pin terminal block
Ethernet Interface (LAN)	Interface		IEEE802.3u (10BASE-T/100BASE-TX compliant
	Connector		Modular connector (RJ45)
USB Interface (USB1)	Interface		USB 2.0 high speed (480Mbps)
	Connector		USB Type Mini-B connector
USB Interface (USB2)	Interface		USB 2.0 Full speed (12Mbps)
	Connector		USB Type Mini-A connector

*1: RS232C and RS 422/485 can be used simultaneously. *2: 187,500bps available only with SIEMENS SIMATIC S7-300/400 series (MPI port direct connection).

Serial Interface Terminal Arrangement

Name	I/O	Function	Communication Type
SD	OUT	Send Data	RS232C
RD	IN	Receive Data	
RS	OUT	Request to Send	
CS	IN	Clear to Send	
SG	—	Signal Ground	RS232C, RS422/485
SDA	OUT	Send Data (+)	RS422/485
SDB	OUT	Send Data (–)	
RDA	IN	Receive Data (+)	
RDB	IN	Receive Data (–)	

ACCESSORIES

Software and Cable Part Numbers

Name	Part No. (Ordering No.)	Package Quantity	Description
Application Software	SW1A-W1C	1	Automation Organizer Software Suite (includes WindO/I-NV4)
USB Maintenance Cable	HG9Z-XCM2A	1	2m USB Programming Cable USB-miniB
PLC Connection Cable *1	FC6A-KC1C	1	Communication cable between IDEC HMIs and FC6A (RS232/RS485)

*1: For the applicable connection cable to connect with the PLC of other than IDEC, refer to WindO/I -NV4 External Device Setup Manual included in the system configuration software Automation Organizer. The manual is also available on IDEC's website.
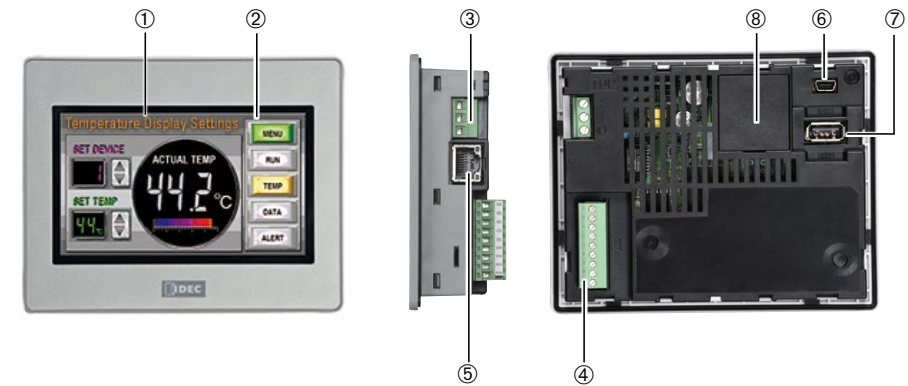
Maintenance Part Numbers

Name		Part No. (Ordering No.)	Package Quantity	Description
Mounting Clip		HG9Z-4K2PN04	4	Two clips are supplied with HG1G.
Serial Interface Connector (detachable 9-pin terminal block)		HG9Z-XT09V	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 USB1, USB2). Two pins are supplied with HG1G.
Protective Sheet *2	(Size: 121.6 × 95.6mm, thickness: 0.188mm)	HG9Z-1D4PN05	5	For 4.3 inch (5 pcs/pack) (used to protect the LCD)

*2: The protective sheet is UV resistant, however, resistance against direct sunlight in outdoor usage is not guaranteed. Used to protect the display screen.

STARTER KITS

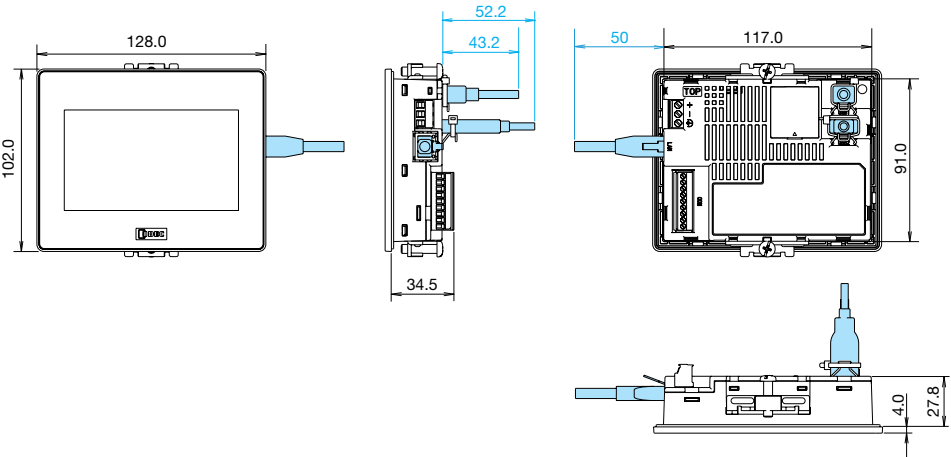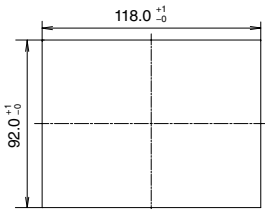| Part Numbers	Description
SMARTTOUCH-1G-B	HMI Kit - HG1G TFT 65K COLOR BLK Bezel, Power Supply, Software, and Programming Cable
KIT-FC6A-16-RA-HG1G	PLC/HMI Kit - FC6A 16IO 100–240V AC Relay Output, and HG1G TFT LCD Black bezel, Power Supply, Software and cables
KIT-FC6A-16-RC-HG1G	PLC/HMI Kit - FC6A 16IO 24V DC Relay Output, and HG1G TFT LCD black bezel, Power Supply, Software and cables
KIT-FC6A-24-RA-HG1G	PLC/HMI Kit - FC6A 24IO 100–240V AC Relay Output, and HG1G TFT LCD black bezel, Power Supply, Software and cables
KIT-FC6A-24-RC-HG1G	PLC/HMI Kit - FC6A 24IO 24V DC Relay Output, and HG1G TFT LCD black bezel, Power Supply, Software and cables

HARDWARE

No.	Name	No.	Name
①	Display	⑤	Ethernet Interface (LAN)
②	Touchscreen	⑥	USB Interface (USB1)
③	Power Supply Terminal	⑦	USB Interface (USB2)
④	Serial Interface (COM)	⑧	Battery Cover

DIMENSIONS

128.0
102.0
52.2
43.2
34.5
50
117.0
91.0

Panel Cut-out

118.0
92.0

All dimensions in mm.
Panel thickness: 1.0 to 5.0mm

4.0
27.8

- Dimensions in blue show the mounting dimensions of the cable.
- Dimensions in the figure vary depending on the type of cable connected.
- Install the HG1G into a panel cut-out by tightening the two mounting clips (supplied) to a torque of 0.2 to 0.3 N·m.
- Do not use excessive force to tighten, otherwise the HG1G may be distorted. Also waterproof characteristics may be lost.

COMPATIBLE PLCS

Manufacturer	Series
IDEC	MICROSmart
	SmartAXIS Pro/Lite
	MICROSmart (Ethernet)
	SmartAXIS Pro/Lite (Ethernet)
Mitsubishi	MELSEC-A (link unit)
	MELSEC-QnA (link unit)
	MELSEC-Q (link unit)
	MELSEC-Q (Ethernet)
	MELSEC-FX
	MELSEC-FX (Ethernet)
OMRON	SYSMAC-C
	SYSMAC-CS
	SYSMAC-CJ1
	SYSMAC-CJ2
	SYSMAC-CP1
	SYSMAC (Ethernet)
Allen-Bradley	PLC-5 (Half Duplex)
	SLC-500 (Half Duplex)
	MicroLogix (Full Duplex)
	ControlLogix (Full Duplex)
	CompactLogix (Full Duplex)
	FlexLogix (Full Duplex)
	ControlLogix (Ethernet/IP, Ethernet/IP [Logix Native Tag])
	CompactLogix (Ethernet/IP, Ethernet/IP [Logix Native Tag])
	PLC-5 (Ethernet/IP)
	SLC 500 (Ethernet/IP)
	MicroLogix (Ethernet/IP)
SIEMENS	S7-200
	S7-300 (connects to CPU)
	S7-300 (link unit)
	S7-400
	S7-1200 (Ethernet)
Keyence	KV-700/1000/3000/5000
	KV Nano
	KZ
	KV
	KV (Ethernet)
Hitachi	S10mini
	S10V
JTEKT	TOYOPUC-PC2J
	TOYOPUC-PC3J
Toshiba Machine Works	TC200
	TCmini
GE Fanuc Automation	Series90-30
	VersaMax

Manufacturer	Series
Schneider Electric	Twido
Modicon	Modbus RTU Master
	Modbus RTU Slave
	Modbus ASCII Master
	Modbus TCP Client
	Modbus TCP Server
Panasonic	FP Series
Yaskawa Electric	MP
	MP (Ethernet)
Koyo	DirectLOGIC 05
	DirectLOGIC 06
	DirectLOGIC 205
	KOSTAC SZ
	KOSTAC SU
	KOSTAC SU (Ethernet)
Fanuc	Power Mate
	Series
Yokogawa Electric	FA-M3
	FA-M3 (Ethernet)
Fuji Electric	FREX-PC
	MICREX-F
	MICREX-SX
	MICREX-SX (Ethernet)
Toshiba	PROSEC T Series
	V Series
LS Industrial Systems	MASTER-K
VIGOR	VB
	VH
Emerson	FloBoss
Equipment Systems	EH (Ethernet)

IDEC

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