Fuji Electric

Innovating Energy Technology

Programmable Operator Interface

MONITOUCH

V9 series

V9 makes automation complete.

FEA-HMI-CA-100

Satisfying, intuitive control
Impressive ability to convey data.
Boosts efficiency in the field through enhanced performance.

On its release in 1988 as the first ever programmable display*, MONITOUCH ushered in a new era of human-machine interface technology. It is now used as an information terminal for countless different purposes in production sites all over the world. The total number of shipments has reached around one million.

We have continuously pioneered the field of programmable displays through an impressive array of exciting new cutting-edge features specifically designed to meet the needs of our clients. MONITOUCH THE PREMIUM.

We are confident that this new lineup will meet your requirements for all types of application.

*According to our own research.

MONITOUCH V9 series

04 Lineup V9
06 Network
10 Usability & Graphics
12 Storage
14 Security
15 Information
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30 PLC Connection - Summary
32 Temperature Controller / Servo / Inverter Connection - Summary
34 Service & Support
35 Product Warranty

Meeting customer needs with a product lineup suited to all kinds of applications.

V9 Advanced

10.1 inches
- V9101iWRLD DC
- V9101iWLD DC

7 inches
- V9071iWRLD DC
- V9071iWLD DC

V9 Standard

15 inches
- V9150iX AC
- V9150iXD DC

12.1 inches
- V9120iS AC
- V9120iSB AC BLACK
- V9120iSD DC
- V9120iSBD DC BLACK

10.4 inches
- V9100iS AC
- V9100iSB AC BLACK
- V9100iSD DC
- V9100iSBD DC BLACK

8.4 inches
- V9080iSD DC
- V9080iSBD DC BLACK

V9 Lite

10.4 inches
- V9100iC AC
- V9100iCB AC BLACK
- V9100iCD DC
- V9100iCBD DC BLACK

8.4 inches
- V9080iCD DC
- V9080iCBD DC BLACK

5.7 inches
- V9060iTD DC
- V9060iTBD DC BLACK

Model	V9101iW	V9071iW	V9150iX	V9120iS
Display Size	10.1” widescreen	7” widescreen	15”	12.1”
Display Device	TFT color	TFT color	TFT color	TFT color
Resolution W:H (dots)	1024×600	800×480	1024×768	800×600
Display Colors	16.7 million *1	16.7 million *1	16.7 million *1	16.7 million *1
Touch Switch	Capacitance	Capacitance	Analog resistance film	Analog resistance film
Screen Memory (FROM)	64MB	64MB	64MB	64MB
Backup Memory (SRAM)	800KB	800KB	800KB	800KB
Ethernet(LAN)	✓	✓	✓	✓
Extended Cable LAN	✓	✓	△*2	△*2
Wireless LAN	△*2	△*2	△*2	△*2
Serial (CN1)	RS-232C/422/485	RS-232C/422/485 *3	RS-232C/422/485	RS-232C/422/485
Serial (MJ1)	RS-232C/485	RS-232C/485	RS-232C/485	RS-232C/485
Serial (MJ2)	RS-232C/485	RS-232C/422/485	RS-232C/485	RS-232C/485
Communication I/F	✓	✓	✓	✓
Expansion Unit I/F (GUR-XX)	✓	—	✓	✓
SD Card I/F	✓	✓	✓	✓
USB(Type A)	✓	✓	✓	✓
USB(Type mini-B)	✓	✓	✓	✓
Sound Output	✓	—	✓	✓

Please refer to page 26 for the details of each model.

V9100iS	V9080iSD	V9100iC	V9080iCD	V9060iTD
10.4”	8.4”	10.4”	8.4”	5.7”
TFT color	TFT color	TFT color	TFT color	TFT color
800×600	800×600	640×480	640×480	640×480
16.7 million *1	16.7 million *1	16.7 million *1	16.7 million *1	260 thousand *1
Analog resistance film	Analog resistance film	Analog resistance film	Analog resistance film	Analog resistance film
64MB	64MB	64MB	64MB	64MB
800KB	800KB	800KB	800KB	800KB
✓	✓	✓	✓	✓
△*2	△*2	—	—	—
△*2	△*2	—	—	—
RS-232C/422/485	RS-232C/422/485	RS-232C/422/485	RS-232C/422/485	RS-232C/422/485 *3
RS-232C/485	RS-232C/485	RS-232C/485	RS-232C/485	RS-232C/485
RS-232C/485	RS-232C/485	RS-232C/485	RS-232C/485	RS-232C/422/485
✓	✓	✓	✓	✓
✓	✓	—	—	—
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	—	—	—

*1 For pictures, 3D parts, video and RGB input (excluding high-speed mode) only. Other items are displayed in 65,536 colors. *2 Depending on the model. *3 When optional unit DUR-00 is installed.

VNC Server

Remote Connection from Tablet PCs

All of the V9 family has remote monitoring/maintenance capabilities via Ethernet, thanks to its VNC feature.

Tablet PC

Direct communication with your tablet PC

Wireless LAN models have built-in access point so that you can establish connection with wireless LAN devices without setting up extra access points.

Wireless LAN *1

Wireless Data Transfer

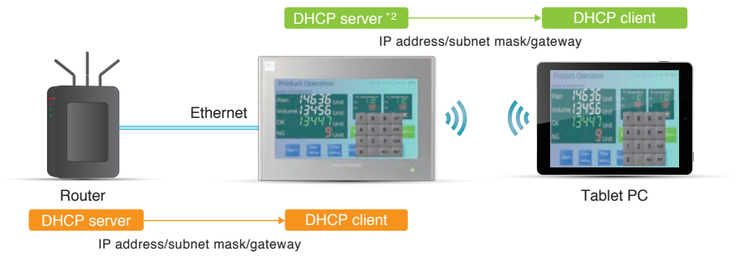
By connecting a PC to a V9 via wireless LAN, transmission of screen program and the reading and writing of files through FTP server/client function becomes available. On-site debugging can be conducted easily, without the need for a cable connection.

*1 Wireless LAN-compatible products only.

DHCP Server *2 / DHCP Client

Easy Communication with DHCP

The information required for network connectivity can be acquired from a server as a DHCP client or can assign to a client as a DHCP server.

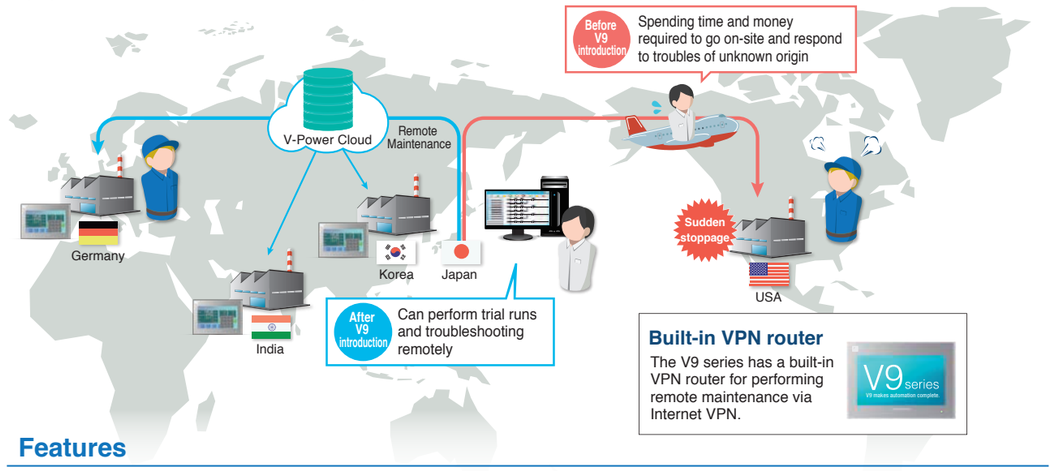


*2 The DHCP server is only available for wireless LAN-compatible products.

Web Machine Interface

VPN Remote Access / Cloud Data Utilization Solution

The Web Machine Interface is a solution service that makes remote monitoring safe, easy, and inexpensive.
It consists of two services: “VPN Remote Access Service” which enables secure remote monitoring by VPN and “Cloud Data Utilization Service” which can receive various types of data via a cloud server. By performing remote maintenance, it is possible to check for signs of abnormality in advance and ensure proper maintenance of the machine. It also helps to reduce the number of sudden stoppages and implements preventive maintenance.



Features

Creates remote connectivity inexpensively

If you have an Internet connection, you can build a VPN environment only by the V9 series without using a VPN router.

Provides highly secure remote access

SSL-VPN enables you to securely connect to remote locations without worrying about eavesdropping or tampering.

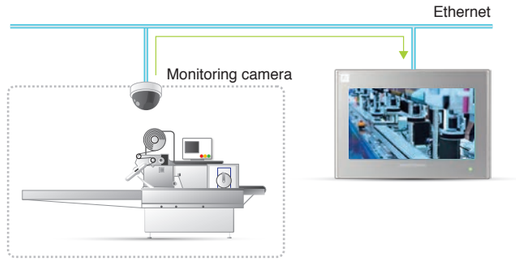
Makes it easy to access peripheral devices remotely

The built-in routing function allows easy remote access to PLC and various devices connected to the V9 series by Ethernet.

Network Camera Compatible

Real-time Monitoring of Remote Site

By connecting to a network camera, it is possible to display camera images in real time on the V9 series screen. It is especially useful for monitoring and checking the inside of clean rooms.



FTP Compatible

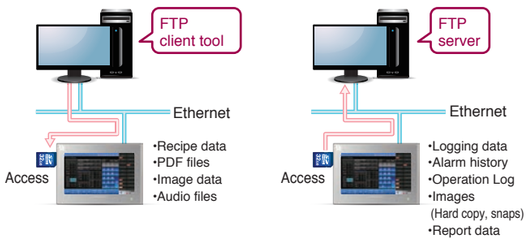
Easily Retrieve Files in Storage from Remote Locations

FTP Server Function

Files in a storage media inserted in a V9 can be read out and written using a PC.

FTP Client Function

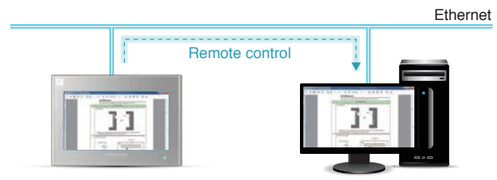
Files on an FTP server can be read and written using the V9 series.



Remote Desktop

Control the PC Screen from the V9 series

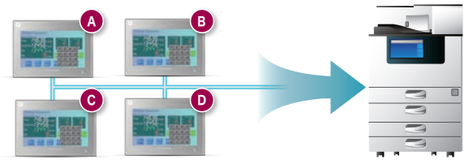
By connecting to Ethernet, you can display the screen of the PC directly on the V9 series. You can view work instructions and manuals located on PCs even at manufacturing sites that do not allow you to carry in PCs. It improves the efficiency of maintenance.



Network Printer Compatible *3

Share Printers with Multiple V9 series

Printing jobs from multiple V9 series can be shared via a single network printer. Network printer connection supports both wired and wireless LAN, and that helps to achieve space and cable savings.

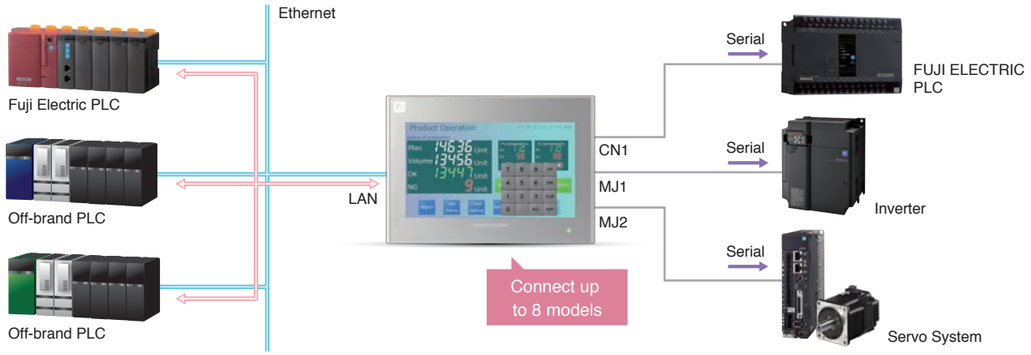


*3 Compatible only with EPSON ESC/P-R. Wireless LAN connection is possible for wireless LAN compatible products.

8-Way Communication

Connection and Data Transmission with Multiple Devices

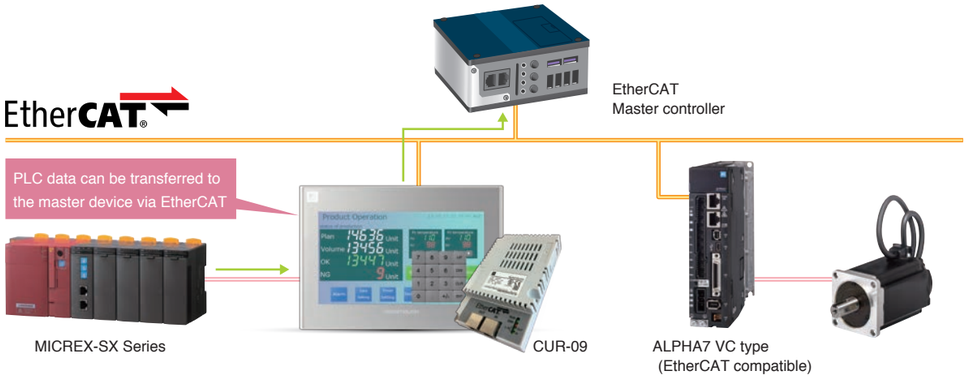
You can connect up to eight different models, off-brand PLC and other peripheral devices at the same time via both Ethernet and serial connection.



Supports EtherCAT Connections

EtherCAT (Slave) Connections

The “CUR-09” communication unit for EtherCAT connection allows for general connection to EtherCAT compatible models.
It can also serve as a gateway between devices connected to the V9 series and the EtherCAT master equipment.

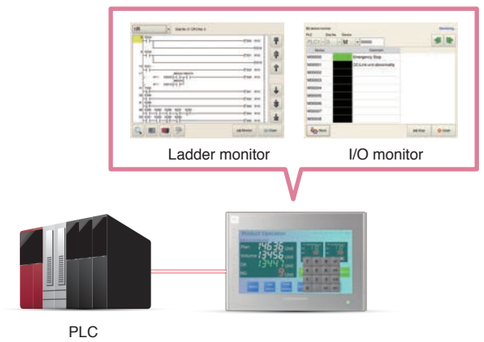


* EtherCAT® is a patented technology and registered trademark licensed by Beckhoff Automation GmbH (Germany).

Ladder Monitoring Function

Enable PLC Monitoring

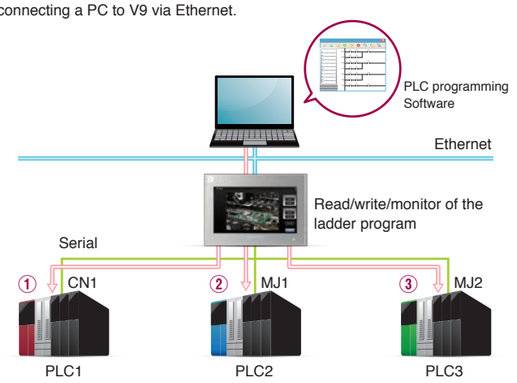
PLC ladder monitoring is available on the V9 series screen. Freely search for the address you want to see, or if you have more than one program, it is possible to switch programs during RUN mode.



Path-through Programming

Ladder Program Transmission (3-way)

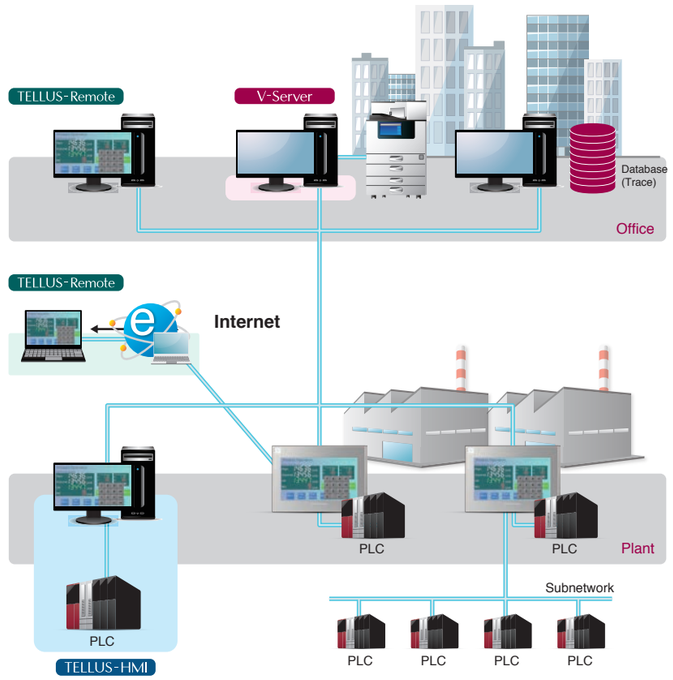
Up to 3 PLCs are accessible to monitor and revise PLC programs by connecting a PC to V9 via Ethernet.



TELLUS and V-Server

Remote Monitoring and Operation Solutions

This application software connects remotely located V9 series to office computers in order to provide on-site information and to monitor and control equipments.
You can allocate jobs based on the operation conditions of the line, respond quickly to trouble, and achieve more efficient and cost-effective production.



V-Server

Real-time collection of on-site information

- Data can be collected in real time by capturing site status and production information.
- It can be linked with databases such as SQL Server. Or save data in CSV or Excel format.
- It supports operations suited to the site via various operation directives based on event monitoring.

TELLUS-Remote

Easy, low-cost monitoring and operation from remote locations

- You can use the same screen data as the on-site V9 series, eliminating the need to create a new remote monitoring screen.
- Multiple startups allow you to monitor and operate more than one V9 series via a single PC.

TELLUS-HMI

Use V9 series features directly on your PC

- Display and operation can be performed on your PC instead of on the V9 series.
- It enables you to easily connect to peripheral devices such as printers. There is no need to worry about selecting peripheral devices.

MES Interface Features

Operation Monitoring and Production Management Solutions

Various types of information such as aggregation of production results, number of defects and stoppage factors are sent to the database using SQL statements from the V9 series through the V-Server. Communication with the database can be accomplished without a gateway PC or cumbersome programming.

Programming not required

By simply specifying the data to be stored in the database on V-SFT, you can communicate with the database without the need for programming.

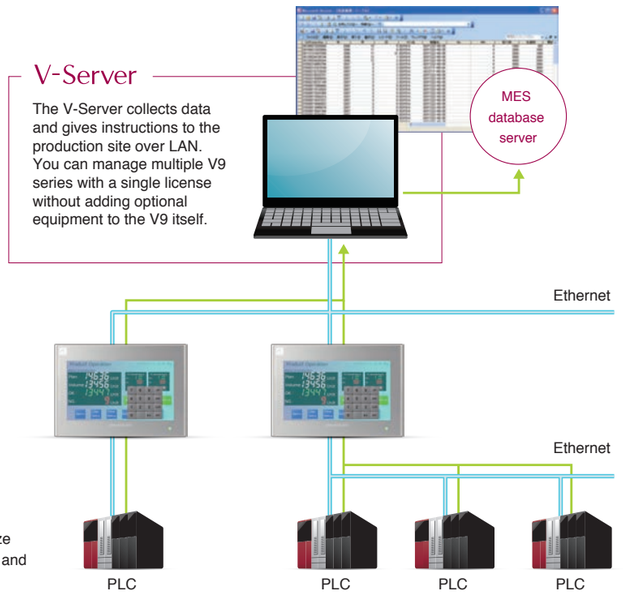
Prevents data loss

If transmission fails, it will produce an error log, so you do not have to worry about losing important data.

Reduces system load

When various conditions are fulfilled, data can be transmitted from the V9 series. It reduces the load on the system by eliminating the need for constant monitoring on the higher-level side.

(MES:Manufacturing Execution System)
This “Manufacturing Execution System” has been designed to optimize quality, production volume, delivery time, and cost as a management and production control system for manufacturing sites.



Usability & Graphics

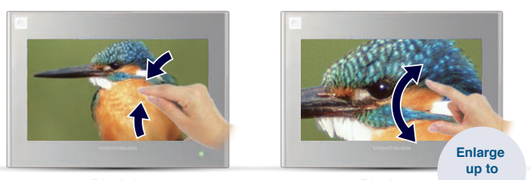
Render overwhelming beauty and outstanding visibility to the finest detail

Smooth Operation with Your Fingers

Zooming In and Out with Two Fingers

V9 Advanced

The displayed image can be magnified up to 200% by pinching out the screen*1. It can be reduced to its original size by pinching it in.



Pinch in

Pinch out

Enlarge up to 200%

*1 Images can be scaled up and down by double tapping when using V9 Standard/Lite.

Scrolling Magnified Images

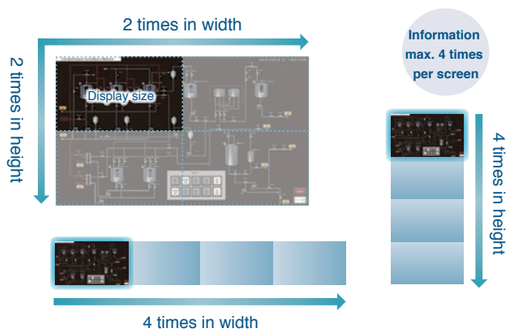
You can view a particular part of a magnified image in close-up while scrolling around the screen.

Abundant Quantity of Information

Displaying Four Times the Screen Size

First in industry*2

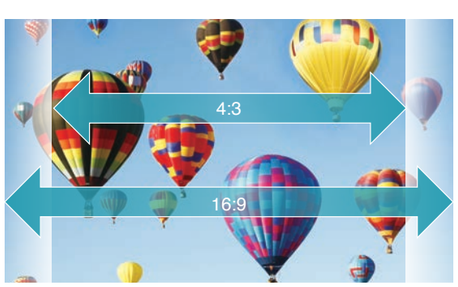
The whole area of a large image can be confirmed easily by scrolling the screen without the need of switching it. The navigation window helps you to recognize the current displayed position instantly.



Widescreen LCD

V9 Advanced

V9 Advanced models are equipped with a high-precision, high-resolution widescreen (16:9). Greater volume and variety of information can be displayed on the screen.



Images can be laid out four times the screen size in height or width according to your needs.

*2 According to our own research.

Expression and Beauty

7-segment Fonts for Realistic Expression

7-segment fonts allow for realistic, highly visible expression of measuring instruments.
Non-illuminated segments can be shown in a subtle color.

Compatible with Vertical Placement

The screen can also be displayed and edited while the panel is placed vertically (by left or right turning).

E. g.)

V9101iW

V9100iS

Main Menu Screen can also be displayed vertically.

For all models

TrueType Font as Standard

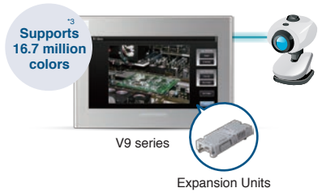
TrueType font has been added to the standard fonts. Smoother display is possible via antialiasing. Furthermore, space can be reduced relative to Windows fonts, thus enabling you to work without worrying about screen data memory.

Before improvement

After improvement

Video/RGB Input-Output

By attaching an optional unit, videos and RGB images can be displayed on the V9. Also, images displayed on the V9 can be sent to external displays.

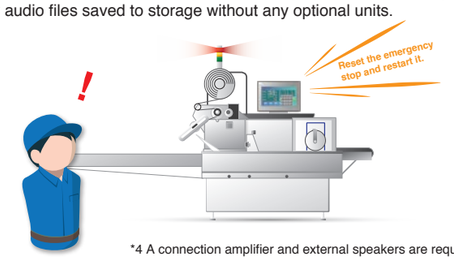


Model	Item
GUR-00	Video input 4ch
GUR-01	RGB input 1ch
GUR-02	RGB output 1ch
GUR-04	Video input 1ch
GUR-10	Video input 2ch +RGB input 1ch
GUR-11	RGB input 2ch

*3 For displaying pictures, 3D parts, video, and RGB input (excluding high-speed mode) only. Other parts are displayed in 65,536 colors.

Audio Playback Function*4

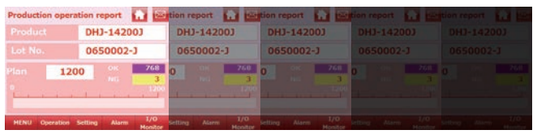
It comes standard with an output port for audio playback*5 that allows you to play audio files saved to storage without any optional units.



*4 A connection amplifier and external speakers are required.
*5 V9101iW/V9 Standard only

Dimmer Function

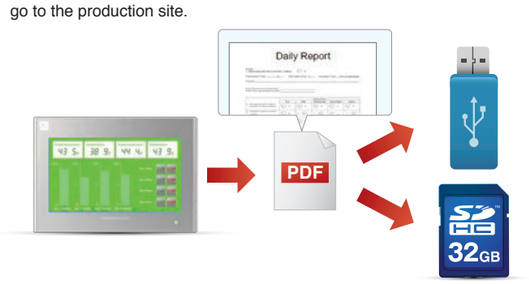
Fine-grained adjustment is possible via 128-step setting.
Even at night or in dark places, the screen is easy to see and not too dazzling, thus enabling smooth operation.



Bright ⟷ Dark

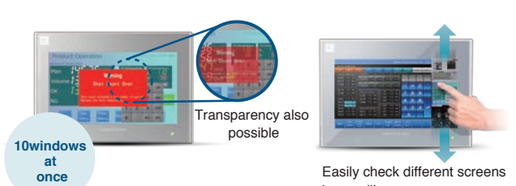
Extended Datasheets

It also supports PDF output in addition to standard printer output. By converting various forms such as daily reports to PDF, the printer is no longer needed. It helps to achieve paper and space savings.
PDF files saved on storage can be transferred to PC in office using FTP server/client functions, which allows you to check data without having to go to the production site.



Overlap Function

Up to 10 pop-up windows can be displayed on the screen at the same time. All of them can be displayed transparently without limiting the overlap size of each window. You can also use overlap screens as subscreens or check them by scrolling without switching to the main screen.



Storage

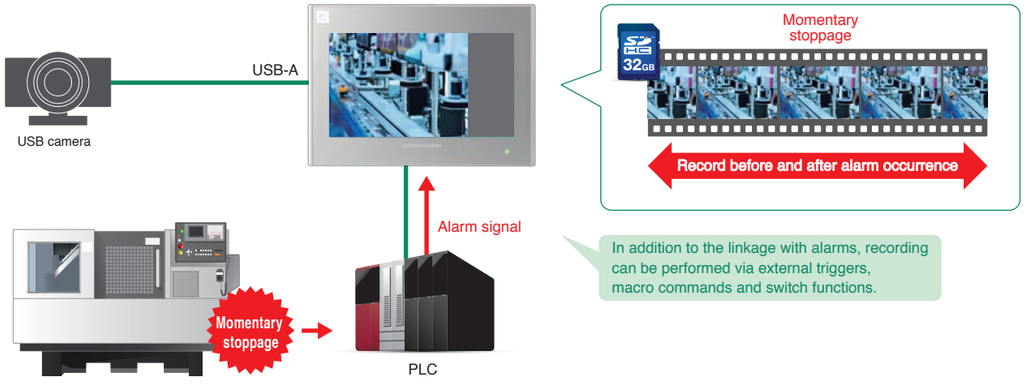
Store and manage data and develop it with scalable functions.

Compatible with Event Record Functions

Under development

Instantaneous Video Recording and Playback

By using a commercially available USB camera, you can record video before and after alarm occurrences, such as those due to momentary stoppages, and save it in an SD card to support cause investigation and improve the operating efficiency of equipment.



Equipped with Video Player

Play Video Data Saved to Storage

By playing videos used for troubleshooting at time of abnormalities, operators can easily learn how to react to the issues quickly.
In addition to viewer initiated playback from the system menu, video can also be played via switch and PLC controller commands. It supports MP4 (MPEG-4) video files to ensure high compression and high quality.

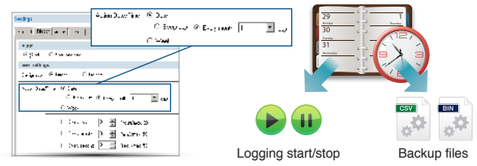
Trend Data Display

Backup Data Display

Backup files can be loaded and displayed on V9.
Alarm backup data can also be displayed.

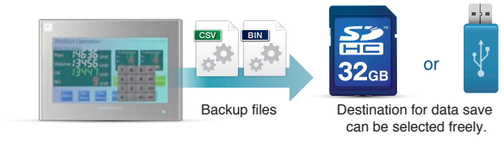
Coordination with the Scheduler

Operations such as bit output and execution of macro programs can be scheduled on a specific date and time. Also, start and stop of logging, and data saving can be conducted by setting the logging conditions.

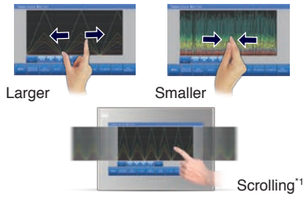


Easy Creation of Backup Files

By using the scheduler, backup files are automatically created at scheduled timings.



Zoom In and Out of Graphs



You can zoom in and out on the vertical and horizontal axes of trend graphs. You can also scroll*1 by touching and dragging zoomed-in graphs.

*1 Supports only horizontal scrolling.

Alarm Display

Scrolling of the Alarm Messages

Scrolling the alarm messages

The entire alarm message can be displayed by scrolling the screen with touch and drag.

Running Emergency Messages

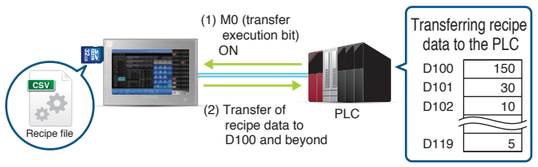
Alarm messages run automatically at a specified position when alarms are occured.

Convenient tools for scrolling

Recipe

Global Control Function

It is possible to read and write to specified files and record data, regardless of the screen displayed, by turning on or off a bit.



Filter Settings

The required data can be easily extracted using the recipe selection list dialog to narrow down file and record searches.

PDF Viewer Function

PDF Viewer Function

PDF files stored on an SD card can be displayed. PDF instruction manuals can be used for troubleshooting.

Fast navigation to the desired page, using bookmarks.

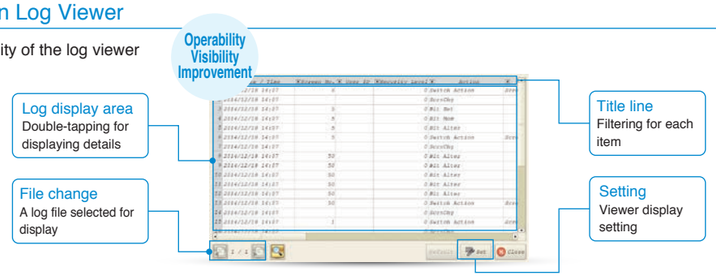
Security

Various setting functions for improving usability

Operation Log

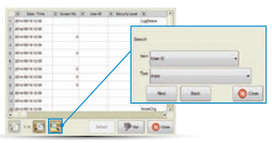
Improved Operation Log Viewer

The operability and visibility of the log viewer have been improved.



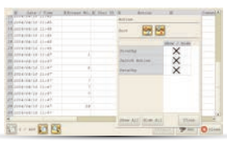
Search Function

Operation log can be searched for by specifying an operator or date and time.



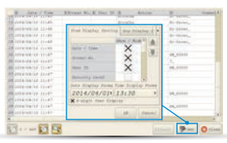
Filter/Sort Settings

Filter and sort can be set for displayed items.



Display Item Settings

It is possible to select items to display in the operation log.



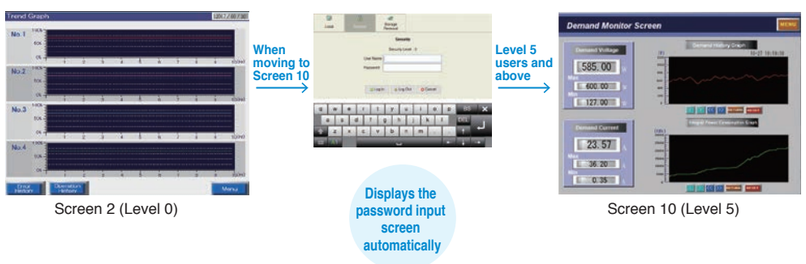
Security Features

Security Level Setting

A security level between 0 and 15 can be set for each screen. You can create a high-level security environment by restricting features based on security level.

Switch Interlock

A security level can also be set for a switch. Only users who log in at the authorized level will be able to operate the switch.



Screen 2 (Level 0)

Screen 10 (Level 5)

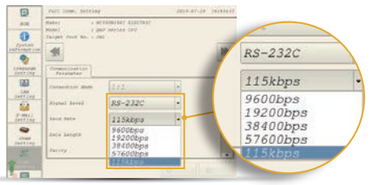
Information

Visualizing information for prompt recognition

Local Screen Settings

Transmission Setting

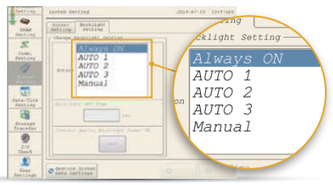
Transmission settings with connected devices can be modified on the V9.



Communication Setting

Backlight Setting

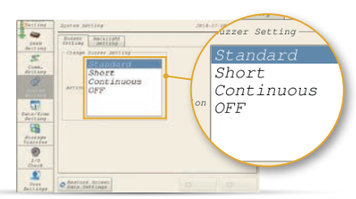
Backlight settings can be modified on the V9.



Backlight Setting

Buzzer Setting

Buzzers settings can be modified on the V9.



Buzzer Setting

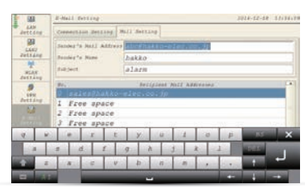
Network Query

Ethernet network status and IP redundancy within the network can be verified.

Network Test

E-mail Setting

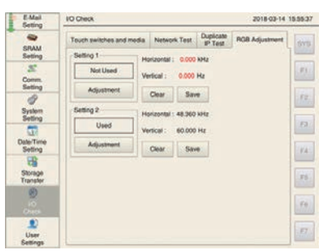
E-mail addresses and SMTP IP addresses can be modified.



E-mail Setting

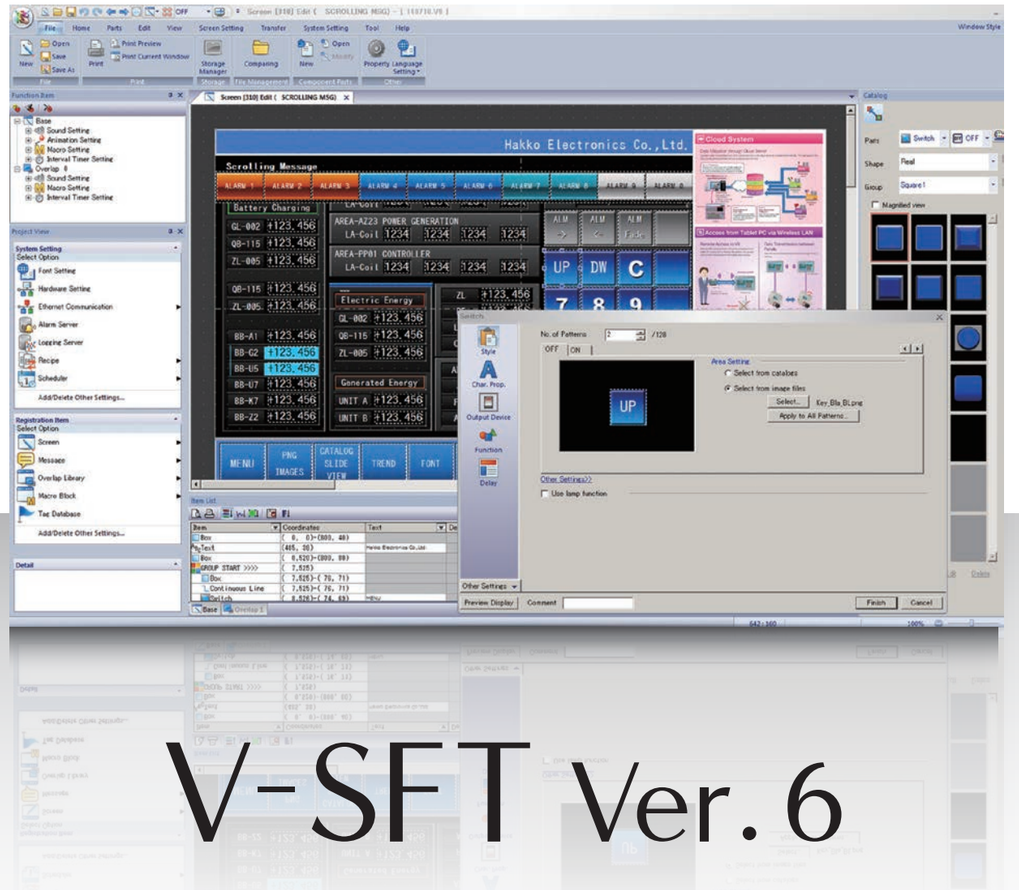
RGB Adjustment

It displays the frequency of the connected device as a real value. Frequencies that cannot be displayed on the screen are displayed in red, so you can check the availability of a connection at a glance.



RGB Adjustment

Achieve Sleeker Screens with Simple, Easy-to-Understand Operations



V-SFT Ver.6

Computer	PC/AT compatible computer running Windows
OS*	Windows XP/XP 64Edition/Windows Vista(32bit, 64bit)/ Windows 7(32bit, 64bit)/Windows 8(32bit, 64bit)/ Windows 8.1(32bit, 64bit)/Windows 10(32bit, 64bit)
CPU	Pentium 4 2.0 GHz or higher is recommended
Memory	1.0 GB or higher (2.0 GB or higher is recommended)
Hard disk	When installed: 2.0 GB or higher

Disc drive	DVD-ROM drive
Display	1024 × 768 (XGA) resolution or higher
Display colors	High color (16 bits) or higher
Others	Microsoft .NET Framework 4.0 or 4.5 (Microsoft .NET Framework 4.0 is installed automatically on computers that do not have either Microsoft .NET Framework 4.0 or 4.5 installed.)

*Administrator privileges are required for installation.

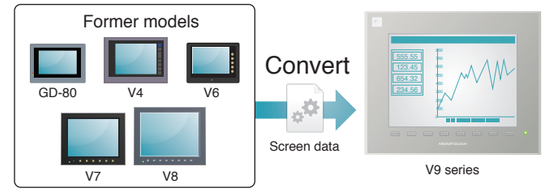
Backward Compatibility with Previous Models

V8 series Compatibility

V-SFT Ver. 6 provides intuitive operation, with easy-to-use visual tools and refined displays.
In addition to the V9 series, V-SFT Ver. 6 is also compatible with the V8 series.

Compatible with Program from Legacy Products

Screen data from previous models created in an older version of V-SFT can be converted as is to data for the current model. This allows anyone to leverage their screen data assets from previous models.



Configuration of Easy-to-view Screens

Wider Range of Parts

The number of picture icons has been increased, and the icons with plain design have been added.
Pick from the wide range of ready-made icons for sophisticated representation.

Simple icons added

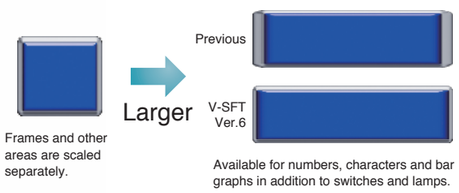
A wide range of icon designs have been newly added with a design that closely resembles smartphones and other familiar devices.

Increased picture icons

V-SFT expands conventional real icons even further.

Improved 3D Parts Scaling Function

3D parts can be scaled up and down without changing the widths of frames. Frame size can be modified by batch, or individually according to the item type.



Frames and other areas are scaled separately.

Available for numbers, characters and bar graphs in addition to switches and lamps.

* For V9 series square picture icons and 3D parts with frames (excluding some icons and parts)

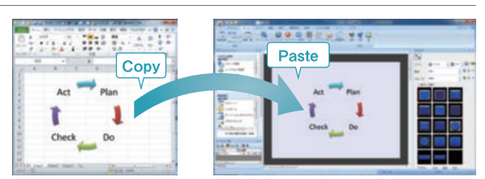
Line Width Setting

The line widths of graphic items and trend items (graph lines, reference lines) can now be set in eight steps. Effective screens can be created using a variety of drawing tools and graph representations.

* Excluding thick lines

Copy/Paste of Microsoft Office Data

Graphics created in Microsoft Office Word, Excel and PowerPoint can be copied and pasted into V-SFT files by converting them to pictures, patterns or parts.

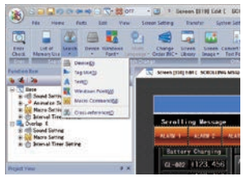


Pasting of an Image File

It is possible to paste a PNG file directly onto the screen. JPG, BMP and GIF formats are also supported as image files, allowing you to create whatever visually impressive screen you choose.

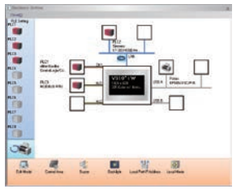
Upgraded Operability

Integration of Search Menu



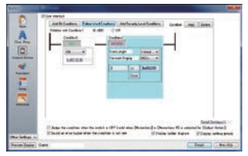
The search menu, which used to be displayed separately, has now been integrated for easy operation.

Intuitively Grasp the Connection Device Configuration



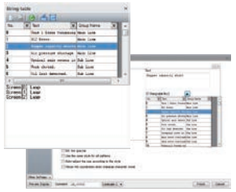
The improved hardware setting screen makes it easy to grasp exactly how devices are connected together in the system.

Enhanced Interlock Setting



Interlock can be set with a ladder drawing screen. The condition settings are easy to understand and convenient even when setting multiple conditions. It is possible to set interlocking for keypad indication conditions in addition to s witch conditions. Up to five conditions (AND or OR) for a bit device, word device or security level can be set, which is suitable for setting complicated conditions.

Character String Table



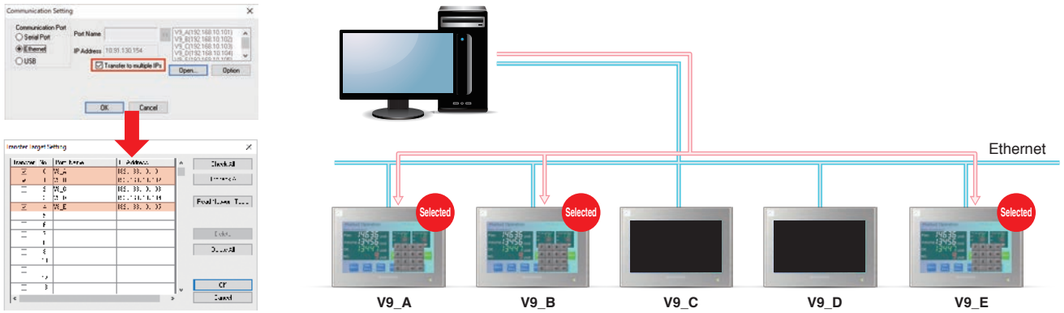
Text for switches, lamps and other parts can be managed centrally using the character string table. Frequently used text can be registered in the table for easy reference and batch modification. When a change occurs, you can make bulk changes simply by changing the string table.

* Switches, lamps, text and multi text only.

Data Batch Transfer Function

Screen Data Batch Transfer (Ethernet)

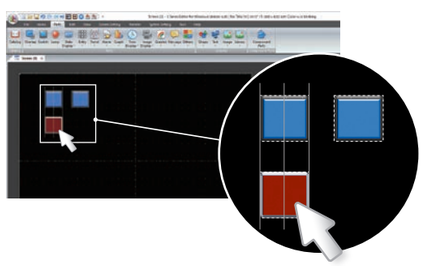
Screen data can be transferred sequentially to multiple V9 series selected from the network.



V-SFT Ver.6 New Functionality

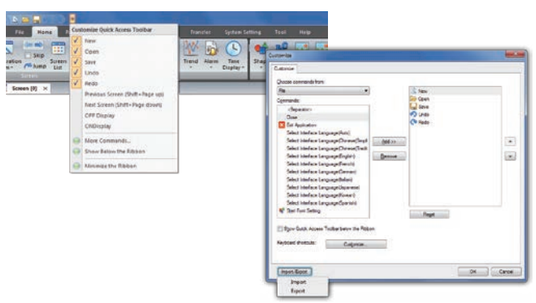
Guideline Function

After arranging the items, it displays guidelines by searching through surrounding items as you move and scale them. It increases your work efficiency when aligning items in a single row or arranging them in the center.



Quick Access Toolbar

Quick Access toolbar is displayed at the top of the toolbar. The display icons can be freely customized by the user, as well as exported and imported. Therefore, they can be edited in the same environment even when switching or replacing computers.



Optional Accessories

Expansion Units

GUR-00 (Video input 4ch)
Displays images from video cameras on V9 directly.

GUR-01 (RGB input 1ch)
Displays RGB input on V9.

GUR-02 (RGB output 1ch)
Displays images of V9 on a monitor.

GUR-04 (Video input 1ch)
Displays images from video cameras on V9 directly.

GUR-10 (Video input 2ch + RGB input 1ch)
Displays images from video camera and RGB input on V9 simultaneously.

GUR-11 (RGB input 2ch)
Displays RGB images such as PC images through two channels on V9 simultaneously.

Communication Units

- CUR-00 OPCN-1
- CUR-01 T-Link
- CUR-02 CC-Link
- CUR-03 Ethernet
- CUR-04 PROFIBUS-DP
- CUR-06 SX Bus
- CUR-07 DeviceNet
- CUR-08 FL-net
- CUR-09 EtherCAT

Configuration Software

V-SFT Ver.6
Windows XP/XP 64Edition/Windows Vista(32bit, 64bit)/
Windows 7(32bit, 64bit)/Windows 8(32bit, 64bit)/
Windows 8.1(32bit, 64bit)/Windows 10(32bit, 64bit)

Editable Models
V9/TS2000/V8/TELLUS Ver.4/TELLUS Ver.3

Cables

Model	Configuration	Connected to
V-CP	RS-232C Modular 8pin — D-Sub9pin(凸) Length: 3m	PC
V6-BCD	RS-232C Modular 8pin Length: 3m	Barcode reader
V6-MLT	RS-485 Modular 8pin Length: 3m	MONITOUCH V9/V8/V7/V6 /TS2000
V6-TMP	RS-232C/485 Modular 8pin Length: 3・5・10m	Temperature controller, Inverter, etc.
UA-FR	Type A Length: 1m	Card reader/writer, USB memory, etc.

DUR-00 (Dedicated optional unit for V907xiW, V9060iTD, TS2060i)

Used for serial connection with D-Sub9pin.

Other Accessories

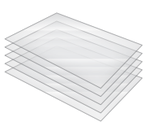
TC-D9 (Terminal converter)
Connects V9 with other units via RS-422/485 terminal.

V7-BT
A replacement lithium battery for the V907xiW, V9060iTD and V8 series.

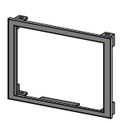
D9-D25
Replacement cable for CN1 cable of V6/V7 series.
Length: 0.3m

V9-ANT
Antenna for V9 models compatible with wireless LAN.
Length: 3m

V9-BT
A replacement lithium battery for V9 series.
* Excluding the V907xiW and V9060iTD.



V9xxx-GS/V9xxx-GSN10
Protection sheets for panels. N10 is a non-glare type sheet.
(5 sheets per set). See P.27 for details.



Panel adapter (PAD-Vxxx)
Used when fitting V9 into V4/GD-80/GD-65/GD-64 panel cutout.
Contact our technical helpdesk for details.

High-end specifications realize smooth and accurate operation.

General Specifications

Item		V9 Advanced		V9 Standard			
		V9101iW	V9071iW	V9150iX	V9150iXD	V9120iS/V9120iSB	V9120iSD/V9120iSBD
Power Supply	Rated Voltage	DC24V		AC100~240V	DC24V	AC100~240V	DC24V
	Permissible Range of Voltage	±10%		-15%,+10%	±10%	-15%,+10%	±10%
	Permissible Momentary Power Failure	Within 1ms		Within 20ms (100VAC or higher)	Within 1ms	Within 20ms (100VAC or higher)	Within 1ms
	Power Consumption (Max. Rating)	27W or less	22W or less	90VA or less	40W or less	70VA or less	28W or less
	Rush Current	17A or less, 6ms	10A or less, 6ms	30A or less, 3ms	19A or less, 7ms	30A or less, 3ms	18A or less, 5ms
Insulation Resistance		DC500V 10MΩ or more					
Physical Environment	Ambient Temperature	0~50°C *1		0~40°C *1		0~50°C *1	
	Ambient Humidity	85%RH or less (without dew condensation) *1					
	Operating Altitude	2,000m or less					
	Operating Atmosphere	No exposure to corrosive gas or conductive dust					
	Storage Temperature	-10~60°C *1		-10~50°C *1		-10~60°C *1	
	Storage Humidity	85%RH or less (without dew condensation) *1					
	Contamination Level	Contamination level2					
Mechanical Operating Conditions	Resistance to Oscillation	JIS B 3502 (IEC61131-2) compliant, Vibration frequency: 5 to 9 Hz, Half amplitude: 3.5 mm, Vibration frequency: 9 to 150 Hz, Constant acceleration 9.8 m/s² (1G), X, Y, Z: 3 directions (10 times each)					
	Resistance to Shock	JIS B 3502 (IEC61131-2) compliant, Peak acceleration: 147 m/s² (15G), X,Y,Z: 3 directions, 3 times each (18 times in total)					
Electric Operating Conditions	Resistance to Noise	Noise voltage:1,000Vp-p, pulse width:1μs, pulse rise time : 1ns		Noise voltage: 1,500Vp-p, pulse width: 1μs, pulse rise time: 1ns	Noise voltage:1,000Vp-p, pulse width:1μs, pulse rise time : 1ns	Noise voltage: 1,500Vp-p, pulse width: 1μs, pulse rise time: 1ns	
	Resistance to Static Discharge	Complies with IEC61000-4-2, contact: 6kV, air: 8kV					
Installation Conditions	Grounding	Grounding resistance: Less than 100Ω, FG/SG separation		Grounding resistance: Less than 100Ω, FG=SG		Grounding resistance: Less than 100Ω, FG/SG separation	
	Structure	Protection structure: Front case: IP66, Type 4X/13*2*3(when water-proof gasket is used), Rear case: IP20, single unit, installation method: panel mounting					
	Cooling System	Natural air cooling					
	Dimensions W*H*D (mm)	278.5 × 198.5 × 54.4	201.6 × 147.6 × 60.3	382.8 × 312.8 × 80.8		327.8 × 261.0 × 54.9	
	Panel Cutout (mm)	257.0 × 183.0 (+0.5/-0) mm	187.2 × 133.4 (+0.5/-0) mm	369.4 × 299.4 (+0.5/-0) mm		313.0 × 246.2 (+0.5/-0) mm	
	Weight	Approx. 1.7 kg	Approx. 1.0kg	Approx. 4.7kg		Approx. 2.5kg	
Case Color		Light gray		Front case: Silver, Rear case: Light gray		Light gray (black front housing for black model)	
Material		PC resin		Front case: Aluminum, Rear case: PC resin		PC resin	

V9 Standard			V9 Lite			
V9100iS/V9100iSB	V9100iSD/V9100iSBD	V9080iSD/V9080iSBD	V9100iC/V9100iCB	V9100iCD/V9100iCBD	V9080iCD/V9080iCBD	V9060iTD/V9060iTBD
AC100~240V	DC24V	DC24V	AC100~240V	DC24V	DC24V	DC24V
-15%,+10%	±10%	±10%	-15%,+10%	±10%	±10%	±10%
Within 20ms (100VAC or higher)	Within 1ms		Within 20ms (100VAC or higher)	Within 1ms		
70VA or less	28W or less		50VA or less	17W or less		13W or less
30A or less, 3ms	17A or less, 6ms		30A or less, 3ms	17A or less, 6ms		8A or less, 7ms
DC500V 10MΩ or more						
0~50°C *1						
85%RH or less (without dew condensation) *1						
2,000m or less						
No exposure to corrosive gas or conductive dust						
-10~60°C *1						
85%RH or less (without dew condensation) *1						
Contamination level2						
JIS B 3502 (IEC61131-2) compliant, Vibration frequency: 5 to 9 Hz, Half amplitude: 3.5 mm, Vibration frequency: 9 to 150 Hz, Constant acceleration 9.8 m/s² (1G), X, Y, Z: 3 directions (10 times each)						
JIS B 3502 (IEC61131-2) compliant, Peak acceleration: 147 m/s² (15G), X,Y,Z: 3 directions, 3 times each (18 times in total)						
Noise voltage: 1,500Vp-p, pulse width: 1μs, pulse rise time: 1ns						Noise voltage:1,000Vp-p, pulse width:1μs, pulse rise time : 1ns
Complies with IEC61000-4-2, contact: 6kV, air: 8kV						
Grounding resistance: Less than 100Ω, FG/SG separation						
Protection structure: Front case: IP66, Type 4X/13*2*3(when water-proof gasket is used), Rear case: IP20, single unit, installation method: panel mounting						
Natural air cooling						
303.8×231.0×54.0	235.0×180.0×48.9		303.8×231.0×54.0		235.0×180.0×48.9	182.5×138.8×53.0
289.0 × 216.2 (+0.5/-0) mm	220.5 × 165.5 (+0.5/-0) mm		289.0 × 216.2 (+0.5/-0) mm		220.5 × 165.5 (+0.5/-0) mm	174.0 × 131.0 (+0.5/-0) mm
Approx. 2.0kg	Approx. 1.3kg		Approx. 2.0kg		Approx. 1.3kg	Approx. 740g
Light gray (black front housing for black model)						
PC resin						

*1 Use at a wet-bulb temperature of 39°C or less because higher temperatures may cause failure.

Performance Specifications

Item		V9 Advanced		V9 Standard	
		V9101iW	V9071iW	V9150iX	V9120iS
Screen Memory (FROM)		64MB			
Backup Memory (SRAM)		800KB			
Display	Display Device	TFT color			
	Resolution W:H (dots)	1024×600	800×480	1024×768	800×600
	Display Size	10.1" widescreen	7" widescreen	15 Inch	12.1 inches
	Display Colors	16.7 million *4			
	Backlight	LED			
	Backlight Life	50,000 hours	100,000 hours		70,000 hours
Touch Switch	Type	Capacitance		Analog resistance film	
Function Switch	Quantity	–		8	
External Interface	D-Sub 9-pin (CN1) *5	RS-232C/RS-422/RS-485 Asynchronous, Data length: 7, 8 bits Parity: Even, odd, none Stop bit: 1, 2 bits Baud rate: 4800, 9600, 19200, 38400. 57600, 76800, 115200, 187500 *6 bps			
	Modular 8-pin (MJ1/MJ2)	RS-232C/RS-422/RS-485 (2-wire type) *7 Asynchronous, Data length: 7, 8 bits Parity: Even, odd, none Stop bit: 1, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115,200 bps			
	SD Card	One card slot provided as standard			
	Ethernet	2ch, Baud rate: 100Mbps, 10Mbps		1ch, Baud rate : 100Mbps, 10Mbps	
	Wireless LAN	Complies with IEEE802.11b/g/n (2.4GHz) *8			
	USB	Type A,Type mini-B (Ver.2.0)			
	Sound Output	1ch provided as standard	–	1ch provided as standard	
Clock	Backup Period	5 years (Ambient temperature 25°C)			
	Calendar Accuracy	Gap ±90 sec. per month (Ambient temperature 25°C, When the battery is backed up)			
Standard	CE Marking *2	EN61000-6-2, EN61000-6-4, EN50581		EN61000-6-2, EN61000-6-4, EN50581 *9	
	UL・cUL *2	UL508			UL508, ANSI/ISA12.12.01 *10
	KC	Compatible		Compatible *9 *11	
	Radio Act *8	Japan: TELEC USA: FCC Canada: IC RSS Europe: RE South Korea: KC		Japan: TELEC	
Classification Standard *2		–		Nippon Kaiji Kyokai (NK) Lloyd's Register of Shipping (LR) American Bureau of Shipping (ABS) Det Norske Veritas (DNV) *9 *12	

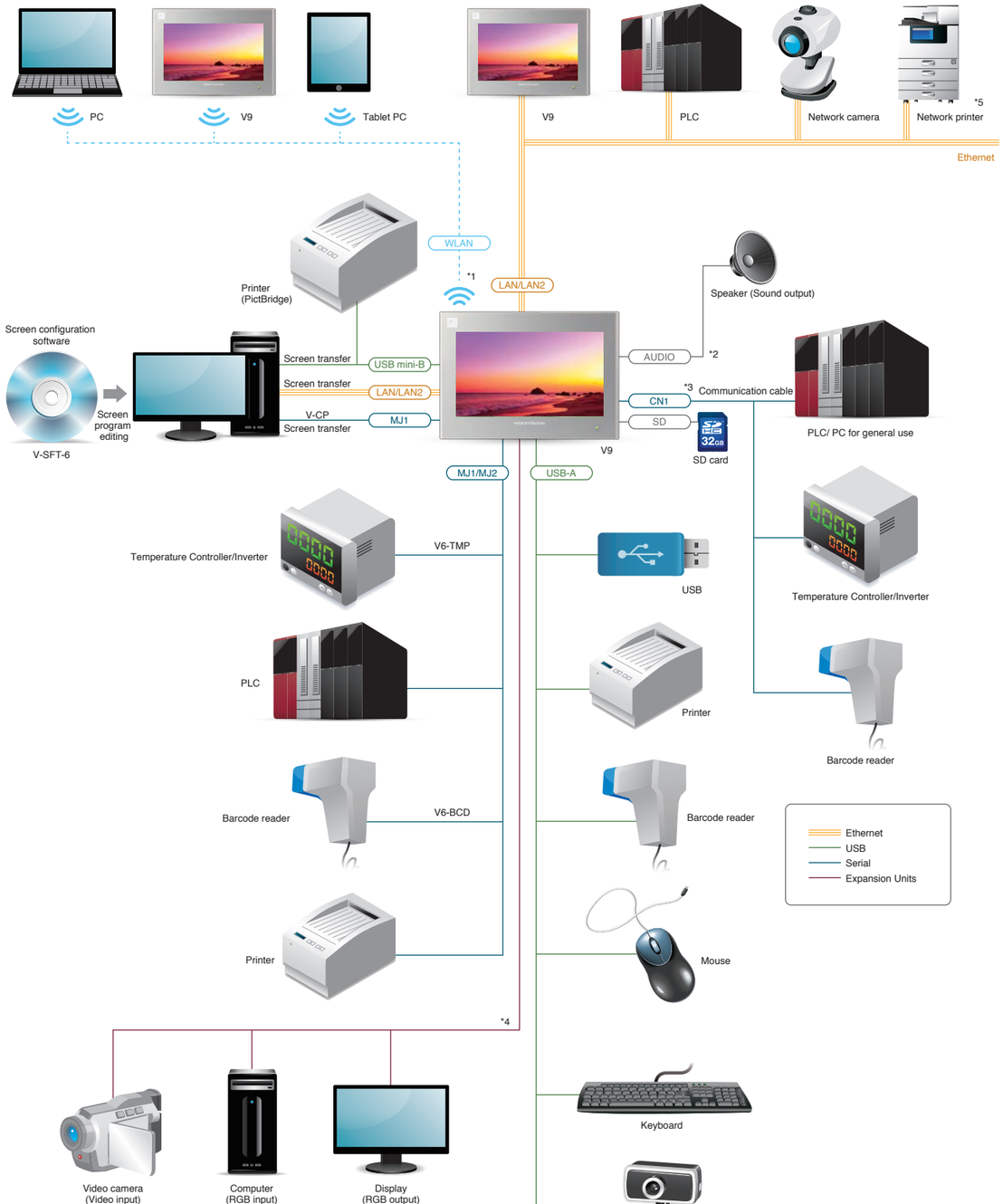
V9 Standard		V9 Lite		
V9100iS	V9080iSD	V9100iC	V9080iCD	V9060iTD
64MB				
800KB				
TFT color				
800×600		640×480		
10.4 Inch	8.4 Inch	10.4 Inch	8.4 Inch	5.7 Inch
16.7 million *4				260 thousand *4
LED				
70,000 hours				50,000 hours
Analog resistance film				
8				6
RS-232C/RS-422/RS-485 Data length: 7, 8 bits Parity: Even, odd, none Stop bits: 1, 2 bits Baud rate : 4800, 9600, 19200, 38400, 57600, 76800, 115200, 187500 *6 bps				
RS-232C/RS-422/RS-485 (2-wire type) *7 Asynchronous, Data length: 7, 8 bits Parity: Even, odd, none Stop bit: 1, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115,200 bps				
One card slot provided as standard				
1ch, Baud rate : 100Mbps, 10Mbps				
Complies with IEEE802.11b/g/n (2.4GHz) *8		–		
Type A,Type mini-B (Ver.2.0)				
1ch provided as standard		–		
5 years (Ambient temperature 25°C)				
Gap ±90 sec. per month (Ambient temperature 25°C, When the battery is backed up)				
EN61000-6-2, EN61000-6-4, EN50581 *9 *11		EN61000-6-2, EN61000-6-4, EN50581		
UL508, ANSI/ISA12.12.01 *10		UL508		UL508, ANSI/ISA12.12.01 *10
Compatible *9 *11		Compatible *11		
Japan: TELEC		–		
Nippon Kaiji Kyokai (NK) Lloyd's Register of Shipping (LR) American Bureau of Shipping (ABS) Det Norske Veritas (DNV) *9 *12		–		Nippon Kaiji Kyokai (NK) Lloyd's Register of Shipping (LR) American Bureau of Shipping (ABS) Det Norske Veritas (DNV)

*2 DC products only. *3 V9101iW: Hardware of Ver.c or later V9120iSD/V9100iSD/V9080iSD/V9100iCD/V9080iCD: Hardware of Ver.b or later V9071iW/V9150iXD/V9060iTD:All versions *4 For displaying pictures, 3D parts, video, and RGB input (excluding high-speed mode) only. Other parts are displayed in 65,536 colors. *5 Optional unit (DUR-00) is required for the V9071iW and V9060iTD. *6 Only for Siemens MPI (Incompatible with DUR-00).

*7 187,500 bps (four-wire system) for the V9071iW and V9060iTD MJ2 only. *8 Wireless LAN-compatible products only. *9 Wireless LAN compatible products are not supported. *10 V9120iSD/V9100iSD/V9080iSD: Hardware of Ver.b or later V9060iTD: All versions *11 Black model not certified *12 V9150iXD/V9060iTD: All V9120iSD: Hardware Ver.b or higher, V9100iSD/V9080iSD: Hardware Ver.c or higher.

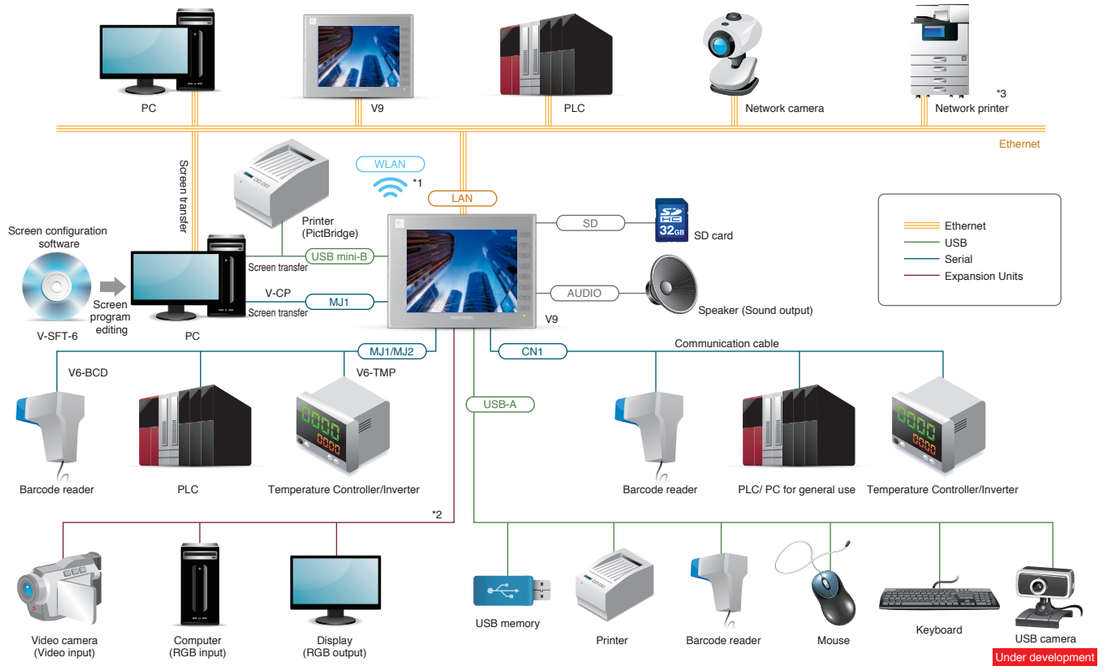
Flexible system configuration meets diversified requirements.

Advanced Model System Configuration



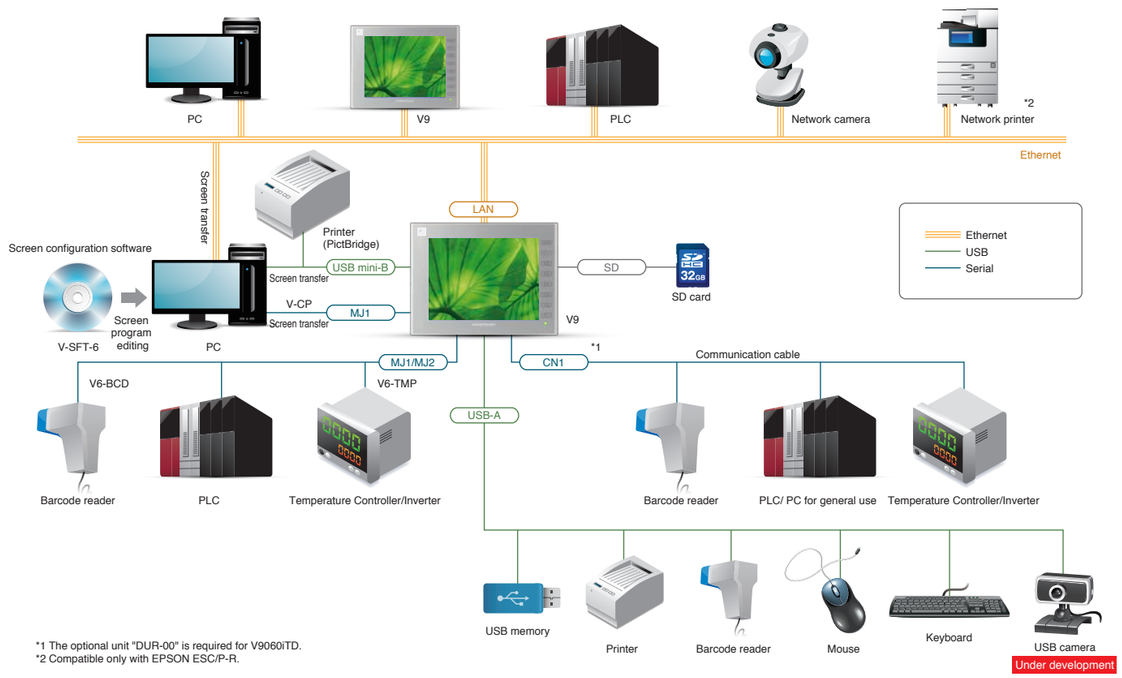
*1 Compatible only with models with Wireless LAN I/F.
*2 Compatible only with V910xiW.
*3 The optional unit "DUR-00" is required for V907xiW.
*4 Compatible only with V910xiW. The expansion unit (GUR-xx) is required.
*5 Compatible only with EPSON ESC/P-R. Wireless LAN connection is possible for wireless LAN compatible products.

Standard Model System Configuration



*1 Compatible only with models with Wireless LAN I/F.
*2 The expansion unit "GUR-xx" is required.
*3 Compatible only with EPSON ESC/P-R. Wireless LAN connection is possible for wireless LAN compatible products.

Lite Model System Configuration



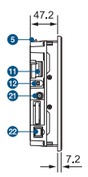
*1 The optional unit "DUR-00" is required for V9060iTD.
*2 Compatible only with EPSON ESC/P-R.

Dimensions & Part Names

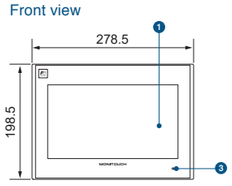
V9 Advanced V9101iW

(Unit: mm)

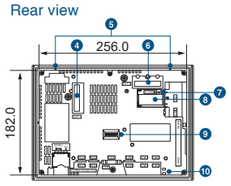
Side view



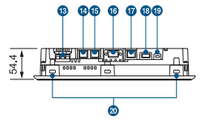
Front view



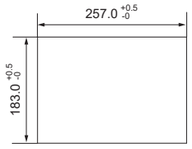
Rear view



Bottom view



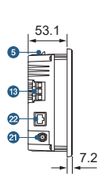
Panel cutout



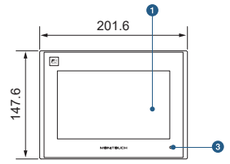
V9 Advanced V9071iW

(Unit: mm)

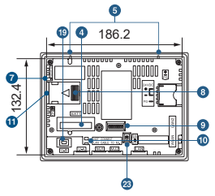
Side view



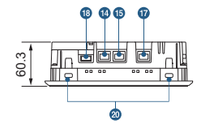
Front view



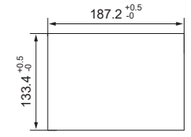
Rear view



Bottom view



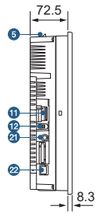
Panel cutout



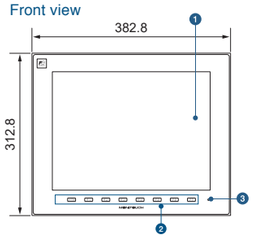
V9 Standard V9150iX

(Unit: mm)

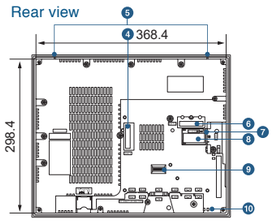
Side view



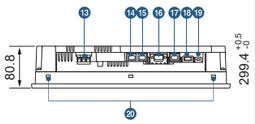
Front view



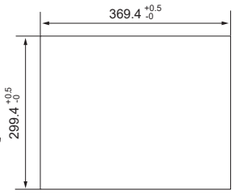
Rear view



Bottom view



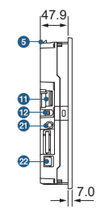
Panel cutout



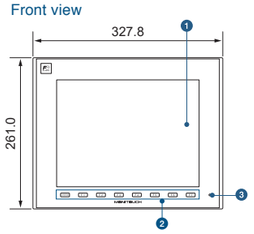
V9 Standard V9120iS/V9120iSB

(Unit: mm)

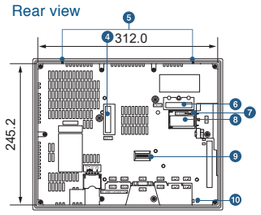
Side view



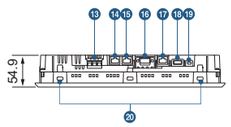
Front view



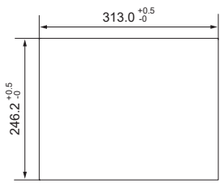
Rear view



Bottom view



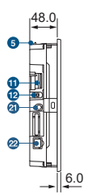
Panel cutout



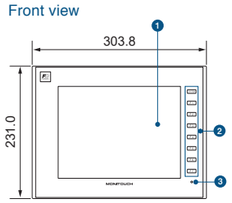
V9 Standard V9100iS/V9100iSB

(Unit: mm)

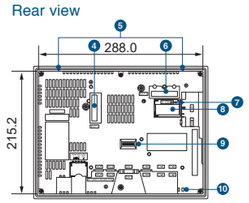
Side view



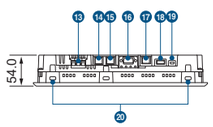
Front view



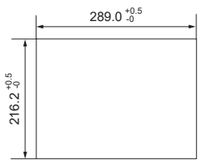
Rear view



Bottom view



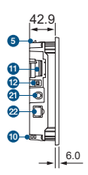
Panel cutout



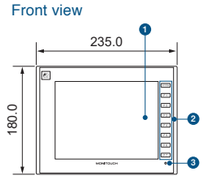
V9 Standard V9080iSD/V9080iSBD

(Unit: mm)

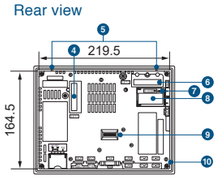
Side view



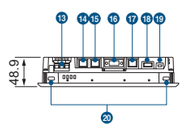
Front view



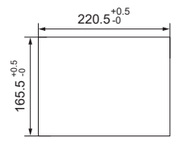
Rear view



Bottom view



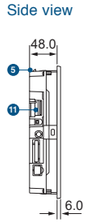
Panel cutout



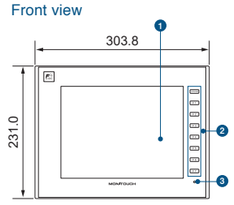
V9 Lite V9100iC/V9100iCB

(Unit: mm)

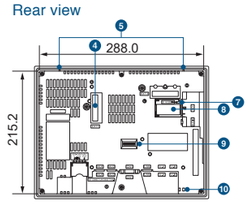
Side view



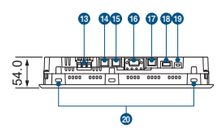
Front view



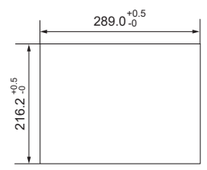
Rear view



Bottom view



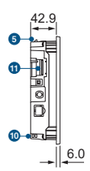
Panel cutout



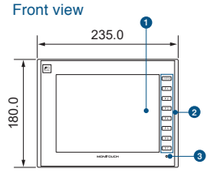
V9 Lite V9080iCD/V9080iCBD

(Unit: mm)

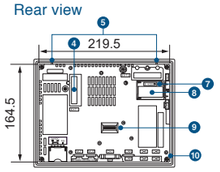
Side view



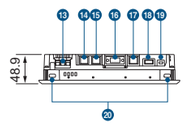
Front view



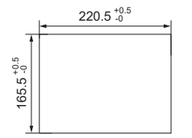
Rear view



Bottom view



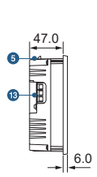
Panel cutout



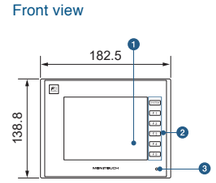
V9 Lite V9060iTD/V9060iTBD

(Unit: mm)

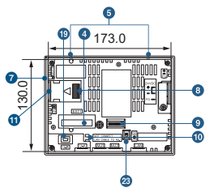
Side view



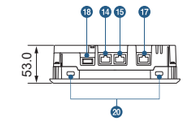
Front view



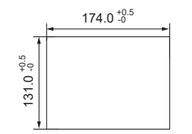
Rear view



Bottom view



Panel cutout



Part Names

1 Display	7 SD card access LED	13 Power input terminal block	19 USB mini-B(U-B)
2 Function switch	8 Battery compartment	14 Modular jack 1 (MJ1)	20 Mounting point
3 Power lamp	9 DIP switch	15 Modular jack 2 (MJ2)	21 Wireless LAN external antenna connector (WLAN)
4 Communication unit connector (EXT1)	10 USB cable retention	16 PLC connector (CN1)	22 100BASE-TX/10BASE-T connector (LAN2)
5 Fall prevention hook	11 SD card connector	17 100BASE-TX/10BASE-T connector (LAN)	23 Slide switch
6 Expansion unit connector (EXT2)	12 Sound output connector (AUDIO)	18 USB-A(U-A)	

Remarkable cost effectiveness enabled by our product lineup and optional units.

Product Details

Advanced

type	Display Size	Resolution	Specifications								Delivery Standard: ✓ Made to order: △
			Touch screen	Video/RGB*1	AUDIO Output	Wireless LAN	Extended Cable LAN	UL508	CE	KC	Power supply	
V9101iWRLD	10.1" widescreen	1024×600	Capacitance	✓	✓	✓	✓	✓	✓	✓	DC	✓
V9100iWRLD			Analog resistance film	✓	✓	✓	✓	✓	✓	✓		△
V9101iWLD			Capacitance	✓	✓	-	✓	✓	✓	✓		✓
V9100iWLD			Analog resistance film	✓	✓	-	✓	✓	✓	✓		△
V9071iWRLD	7" widescreen	800×480	Capacitance	-	-	✓	✓	✓	✓	✓	DC	✓
V9070iWRLD			Analog resistance film	-	-	✓	✓	✓	✓	✓		△
V9071iWLD			Capacitance	-	-	-	✓	✓	✓	✓		✓
V9070iWLD			Analog resistance film	-	-	-	✓	✓	✓	✓		△

Standard

Model	Display Size	Resolution	Specifications								Delivery Standard: ✓ Made to order: △
			Touch screen	Video/RGB*1	AUDIO Output	Wireless LAN	Extended Cable LAN	UL508	CE	KC	Power supply	
V9150iX	15"	1024×768	Analog resistance film	✓	✓	-	-	-	-	✓	AC	✓
V9150iXD				✓	✓	-	-	✓	✓	✓	DC	✓
V9150iXLD				✓	✓	-	✓	✓	✓	✓		△
V9150iXRD				✓	✓	✓*2	-	✓	-	-		△
V9120iS	12.1"	800×600	Analog resistance film	✓	✓	-	-	-	-	✓	AC	✓
V9120iSB				✓	✓	-	-	-	-	-		△
V9120iSD				✓	✓	-	-	✓	✓	✓	DC	✓
V9120iSBD				✓	✓	-	-	✓	✓	-		△
V9120iSLD				✓	✓	-	✓	✓	✓	✓		△
V9120iSLBD				✓	✓	-	✓	✓	✓	-		△
V9120iSRD				✓	✓	✓*2	-	✓	-	-		△
V9120iSRBD				✓	✓	✓*2	-	✓	-	-		△
V9100iS	10.4"	800×600	Analog resistance film	✓	✓	-	-	-	-	✓	AC	✓
V9100iSB				✓	✓	-	-	-	-	-		△
V9100iSD				✓	✓	-	-	✓	✓	✓	DC	✓
V9100iSBD				✓	✓	-	-	✓	✓	-		△
V9100iSLD				✓	✓	-	✓	✓	✓	✓		△
V9100iSLBD				✓	✓	-	✓	✓	✓	-		△
V9100iSRD				✓	✓	✓*2	-	✓	-	-		△
V9100iSRBD				✓	✓	✓*2	-	✓	-	-		△
V9080iSD	8.4"	800×600	Analog resistance film	✓	✓	-	-	✓	✓	✓	DC	✓
V9080iSBD				✓	✓	-	-	✓	✓	-		△
V9080iSLD				✓	✓	-	✓	✓	✓	✓		△
V9080iSLBD				✓	✓	-	✓	✓	✓	-		△
V9080iSRD				✓	✓	✓*2	-	✓	-	-		△
V9080iSRBD				✓	✓	✓*2	-	✓	-	-		△

Lite

Model	Display Size	Resolution	Specifications								Delivery Standard: ✓ Made to order: △
			Touch screen	Video/RGB*1	AUDIO Output	Wireless LAN	Extended Cable LAN	UL508	CE	KC	Power supply	
V9100iC	10.4"	640×480	Analog resistance film	-	-	-	-	-	-	✓	AC	✓
V9100iCB				-	-	-	-	-	-	-		△
V9100iCD				-	-	-	-	✓	✓	✓	DC	✓
V9100iCBD				-	-	-	-	✓	✓	-		△
V9080iCD	8.4"	640×480	Analog resistance film	-	-	-	-	✓	✓	✓		✓
V9080iCBD				-	-	-	-	✓	✓	-		△
V9060iTD	5.7"	640×480	Analog resistance film	-	-	-	-	✓	✓	✓		✓
V9060iTBD				-	-	-	-	✓	✓	-		△

*1 Supported via the expansion unit GUR-xx.
*2 Only for use in Japan.

V9 Models

V9□□□ i □□□□□

- **Screen size**
  15: 15.0"
  12: 12.1"
  10: 10.4" (Standard) / 10.1" widescreen (Advanced)
  08: 8.4"
  07: 7.0" widescreen (Advanced)
  06: 5.7"
- **Touch screen**
  0: Analog resistance film
  1: Capacitance
- **Interface**
  i: With a built-in LAN port
- **Display device**
  W: TFT color LCD (10.1" wide type=WSVGA/7.0" wide type = WVGA)
  X: TFT color LCD (XGA)
  S: TFT color LCD (SVGA)
  C: TFT color LCD (VGA)
  T: TFT color LCD (VGA)
- **Wireless LAN I/F**
  R: With wireless LAN I/F
  N/A: Without wireless LAN I/F
- **Extended cable LAN I/F**
  L: With extended cable LAN I/F
  N/A: Without extended cable LAN I/F
- **Front case color**
  B: Black
  N/A: Light gray
- **Power supply**
  D: 24V DC
  N/A: 100-240V AC

Optional Accessories List

Model	Product	Compatible Model								
		Advanced		Standard				Lite		
		V9101iW	V9071iW	V9150iX	V9120iS	V9100iS	V9080iS	V9100iC	V9080iC	V9060iT
Configuration software										
V-SFT-6	V9/TS2000/V8 screen configuration software Ver.6 (Manual not included)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expansion Units										
GUR-00	Video 4ch input	✓		✓	✓	✓	✓			
GUR-01	RGB 1ch input	✓		✓	✓	✓	✓			
GUR-02	RGB 1ch output	✓		✓	✓	✓	✓			
GUR-04	Video 1ch input	✓		✓	✓	✓	✓			
GUR-10	Video 2ch input/ RGB 1ch input	✓		✓	✓	✓	✓			
GUR-11	RGB 2ch input	✓		✓	✓	✓	✓			
DUR-00	Optional unit for V907xiW/V9060iTD/TS2060i		✓							✓
Communication Units										
CUR-00	OPCN-1 (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-01	T-Link (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-02	CC-Link (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-03	Ethernet (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-04	PROFIBUS-DP (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-06	SX Bus (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-07	DeviceNet (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-08	FL-net (V9/TS2060i)	✓	✓	✓	✓	✓	✓	✓	✓	✓
CUR-09	EtherCAT (V9)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cables *1										
V-CP	Screen transfer cable (3m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
UA-FR	USB-A extension cable (1m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
USB-CFREC	USB port connected CF card recorder	✓	✓	✓	✓	✓	✓	✓	✓	✓
V6-MLT	Multi-link 2 master cable (3m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
V6-TMP	Temperature controller cable (3m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
V6-TMP-5M	Temperature controller cable (5m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
V6-TMP-10M	Temperature controller cable (10m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
V6-BCD	Barcode reader cable (3m)	✓	✓	✓	✓	✓	✓	✓	✓	✓
D9-MB-CPUQ-2M	MITSUBISHI ELECTRIC A series / QnA series CPU (Dsub25) RS-422	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MB-CPUQ-3M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MB-CPUQ-5M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MB-CPUQ-10M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MB-CPUQ-15M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-QCPU2-2M	MITSUBISHI ELECTRIC Q series CPU (Mini DIN6) RS-232C	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-QCPU2-3M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-QCPU2-5M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-QCPU2-10M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-QCPU2-15M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI2-09-2M	MITSUBISHI ELECTRIC link unit (Dsub9) RS-232C	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI2-09-3M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI2-09-5M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI2-09-10M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI2-09-15M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI4-FX-2M	MITSUBISHI ELECTRIC FX series CPU (Mini DIN8) RS-422	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI4-FX-3M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI4-FX-5M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI4-FX-10M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-MI4-FX-15M		✓	△*2	✓	✓	✓	✓	✓	✓	△*2
D9-D25	Dsub9-Dsub25 conversion cable (0.3m)	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
MJ2-PLC	MJ2-Dsub25 conversion cable		✓							✓
Communication Terminal Block										
TC-D9	V9/TS2000/V8 seriesterminal converter	✓	△*2	✓	✓	✓	✓	✓	✓	△*2
Battery										
V9-BT	Replacement battery for V9	✓		✓	✓	✓	✓	✓	✓	
V7-BT	Replacement battery for V907xiW/V9060iTD/V8		✓							✓
Wireless LAN Antenna										
V9-ANT	V9 external antenna with cable (3m)	✓	✓							
Protection Sheets										
V715-GS	V9150iX/V815/V715 Surface protection sheet			✓						
V715-GSN10	V9150iX/V815/V715 Surface protection sheet (Non-glare)			✓						
V912S-GS	V9120iS protection sheets				✓					
V912S-GSN10	V9120iS protection sheets (Non-glare)				✓					
V910S-GS	V9100iS/V9100iC protection sheets					✓		✓		
V910S-GSN10	V9100iS/V9100iC protection sheets (Non-glare)					✓		✓		
V910W-GS	V9100iW protection sheets	✓								
V908S-GS	V9080iS/V9080iC protection sheets						✓		✓	
V908S-GSN10	V9080iS/V9080iC protection sheets (Non-glare)						✓		✓	
V907W-GS	V9070iW protection sheets		✓							
V906T-GS	V9060iTD/TS2000 protection sheets									✓
V906T-GSN10	V9060iTD/TS2000 protection sheets (Non-glare)									✓

*1 PLC connection cables other than those listed above are also available. For details, please contact our technical helpdesk.
*2 Optional unit DUR-00 is required.

MONITOUCH wide-variety product lineup

TS2000 series

TECHNOSHOT

5.7 inch | QVGA | 64K Color | TFT | LED Backlight | 2ch Serial | USB miniB | DC Power supply

With Ethernet port
TS2060i

No Ethernet port
TS2060

10.5M FROM | 512K SRAM | USB A | SD Card | Ethernet | Communication Units *1

2.5M FROM | 128K SRAM

*1 "DUR-00" or "CUR-xx" is mountable.

Specifications

		TS2060	TS2060i
Screen Memory (FROM)		2.5Mbyte	10.5Mbyte
Backup Memory (SRAM)		128Kbyte	512Kbyte
Stroke Font		-	Compatible
Display	Display Device	TFT color	
	Resolution W:H (dots)	320 × 240	
	Display Size	5.7 inch (QVGA)	
	Display Colors	65,536 colors(The software is compatible with displays in 32K colors, 256 colors, 128 colors and monochrome.)	
	Backlight	LED	
	Backlight Life	50,000 hours	
Touch Switch	Type	Analog resistance film	
Function Switch	Quantity	6	
External Interface	D-Sub 9-pin*2	-	RS-232C/RS-422/RS-485, asynchronous type, Data length: 7, 8 bits, Parity : odd, even, none, Stop bit: 1, 2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200 bps
	Modular 8-pin(MJ1/2)	RS-232C/RS-422 (4-wire system)*3/RS-485 (2-wire system), Asynchronous type, Data length: 7,8 bits, Parity: even, odd, none Stop bit: 1, 2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200, 187500 bps*4	
	SD Card	-	One card slot provided as standard (SD/SDHC card)
	Ethernet	-	1ch, Baud rate: 100Mbps, 10Mbps
	USB	Type mini-B(Ver. 2.0)	Type A, Type mini-B (Ver. 2.0)
	Communication Units	-	CUR-xx compatible
Power Supply	Permissible Range of Voltage	24 V DC ± 10%	
	Power Consumption (max. rating)	13W or less	
Physical Environment	Ambient Temperature	0°C to +50°C*5	
	Ambient Storage Temperature	-10°C to +60°C*5	
	Ambient Humidity	85% RH or less (without dew condensation)*5	
	Ambient Storage Humidity	85% RH or less (without dew condensation)*5	
	Operating Altitude	2,000 m or less	
	Operating Atmosphere	Not exposed to corrosive gas or excessive dust (free of conductive dust)	
	Contamination Level	Contamination level2	
Installation Conditions	Grounding	Grounding resistance: Less than 100 Ω, FG/SG separation	
	Protective Structure	Front panel : Compatible with IP65 (when gasket is used), Rear cover : Compatible with IP20	
	Cooling System	Natural air cooling	
	Dimensions W×H×D	182.5 × 138.8 × 45.8 mm	
	Panel Cutout	174.0 $^{+0.5}_{-0}$ × 131.0 $^{+0.5}_{-0}$ mm (equivalent to V806/V606e/S806/V706/V606)	
Standard		CE/KC/UL61010-1, UL61010-2-201, EN50581	
Case Color		Black	
Battery		Built-in button battery / Battery life : 5 years (ambient temperature 25°C)	

*2 Only when mounting the optional unit (DUR-00) to the TS2060i. *3 Only MJ2 is compatible with 4-wire system.
*4 187500 bps only applies to Siemens MPI/PPI connections. MPI/PPI supports only MJ2. *5 Use at a wet-bulb temperature of 39°C or less because higher temperatures may cause failure.

V8 Handy Type

V808CH

7.5 inch | VGA | 64K Color | TFT | LED Backlight | 2ch Serial | CF Card | USB B | DC Power supply

*1

With Ethernet port
V808iCH

No Ethernet port
V808CH

12.5M FROM | 512K SRAM | Ethernet

4.5M FROM | 128K SRAM

V808CH Models

V808 ☐ CH ☐

	Key switch	Deadman switch	
		Type	External output
0	N/A	Momentary	N/A
1	Equipped	Momentary	N/A
2	N/A	3-position	1-contact
3	Equipped	3-position	1-contact
4	N/A	3-position	2-contact

Feature Specifications
N/A: No built-in LAN port
i: Built-in LAN port

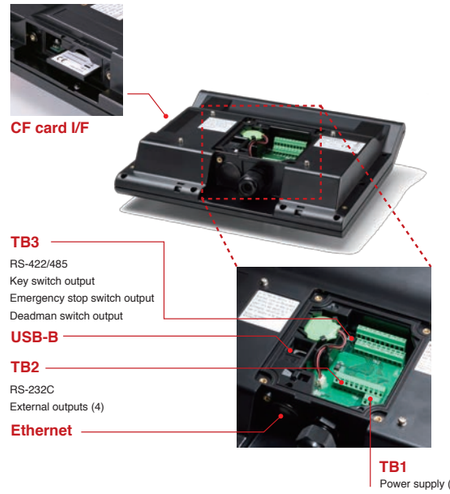
Specifications

			V808iCHx	V808CHx
Basic Specs	Display Size		7.5 inch (VGA)	
	Display Device		TFT color LCD	
	Resolution W:H (dots)		640 × 480 dots	
	Display Colors		65,536 colors (no blink) / 32,768 colors (with blink)	
	Screen Memory(FROM)		FROM (12.5M byte)	FROM (4.5M byte)
	Backup Memory(SRAM)		SRAM (512K byte)	SRAM (128K byte)
	Clock		Equipped	
	Ethernet		100BASE-TX/10BASE-T provided as standard	N/A
	CF Card I/F		Equipped	
	USB I/F		Type B (Ver 1.1)	
Function Switch	Quantity		12 (4 : external output)	
	Type		Membrane switch	
	Mechanical Life Expectancy		1,000,000 times or more	
Touch Switch	Type		Push lock system (b-contact, 2 circuits)	
	Mechanical Life Expectancy		100,000 times or more	
	Rated Voltage		DC24V	
	Rated Current		1 A (load resistance)	
Key Switch Specs	Contact		a-contact, 1 circuit	
	Mechanical Life Expectancy		250,000 times or more	
	Electrical Life Expectancy		100,000 times or more (operating cycles: 1200 times/hour)	
Deadman Switch Specs	3-position	Type	3-position output (a-contact, 2 circuits*2)	
		Mechanical Life Expectancy	OFF→ON 1,000,000 times or more OFF→ON→OFF (direct circuit): 100,000 times or more	
		Rated Voltage	DC24V	
		Rated Current	1 A (load resistance)	
	Momentary	Type	Momentary	
		Mechanical Life Expectancy	1,000,000 times or more	
External I/F	TB2		RS232C, Data length : 7, 8 bits, Parity: Even, odd, none Stop bit: 1, 2 bits Baud rate: 4800, 9600, 19200, 38400, 76800, 115,200 bps	
	TB3		RS-422/485, Asynchronous type; Data length: 7, 8 bits Parity: Even, odd, none Stop bit: 1, 2 bits Baud rate: 4800, 9600, 19200, 38400, 76800, 115200, 187500*3bps	
Applicable Standard	CE Marking		EN61000-6-2, EN61000-6-4, EN50581	
	UL, cUL		UL508 *1	

*1 Contact our sales office for information on UL508 compliant products.
*2 Only V808(i)CH4 comes with a-contact and 2 circuits. V808(i)CH2,3 only have 1 circuit.
*3 187500 bps only applies to Siemens MPI/PPI connections.

Optional Accessories List

Model	Product
V8H-C☐	V808CH external connection cable (☐ =3, 5,15, 20 m)
V7-BT	V8, V7, V606e battery
V8H-SWG	V808CH switch guard
V6H-WF	V808CH wall mounting bracket set
V6H-WF1	V808CH wall mounting bracket (wall side)
V8H-WFV	V808CH fixing bracket (VESA compliant)
V8H-ST	V808CH stand
V608CH-GSN10	V808CH/V608CH protection sheets (Non-glare)



PLC Connection - Summary

As of September 2018

Manufacturer	Models	Connection form				Compatible models				
		1:1	1:n Multi-drop	n : 1 Multi-link2	n : 1 Multi-link	V9	TS2060i	TS2060	V8i	V8
Fuji Electric	MICREX-F series	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MICREX-F series V4-compatible	✓	✓	✓		✓	✓	✓	✓	✓
	MICREX-F T-Link					✓ *1	✓ *1		✓ *1	✓ *1
	MICREX-F T-Link V4-compatible					✓ *1	✓ *1		✓ *1	✓ *1
	SPB (N mode) & FLEX-PC series	✓	✓	✓		✓	✓	✓	✓	✓
	SPB (N mode) & FLEX-PC CPU	✓		✓		✓	✓	✓	✓	✓
	MICREX-SX (T-Link)					✓ *1	✓ *1		✓ *1	✓ *1
	MICREX-SX (OPCN-1)					✓ *1	✓ *1		✓ *1	✓ *1
	MICREX-SX (SX bus)					✓ *1	✓ *1		✓ *1	✓ *1
	MICREX-SX SPH/SPB/SPM/SPE/SPF series	✓		✓		✓	✓	✓	✓	✓
	MICREX-SX SPH/SPB/SPM/SPE/SPF CPU	✓		✓		✓	✓	✓	✓	✓
	MICREX-SX (Ethernet)	✓	✓			✓	✓		✓	
Allen-Bradley	PLC-5	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PLC-5 (Ethernet)	✓	✓			✓	✓		✓	
	SLC500	✓	✓	✓		✓	✓	✓	✓	✓
	SLC500 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	NET-ENI (SLC500 Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	NET-ENI (MicroLogix Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	MicroLogix	✓	✓	✓		✓	✓	✓	✓	✓
	MicroLogix (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	ControlLogix / CompactLogix	✓		✓		✓	✓	✓	✓	✓
	ControlLogix (Ethernet)	✓	✓			✓	✓		✓	
	Micro800 Controllers	✓		✓		✓	✓	✓	✓	✓
	Micro800 Controllers (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
Automationdirect	Direct LOGIC (K-Sequence)	✓		✓		✓	✓	✓	✓	✓
	Direct LOGIC (Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	Direct LOGIC (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Azbil	MX series	✓	✓	✓		✓	✓	✓	✓	✓
Baumuller	BMx-x-PLC	✓		✓		✓	✓	✓	✓	✓
BECKHOFF	ADS protocol (Ethernet)	✓	✓			✓	✓		✓	✓ *2
CIMON	BP series	✓		✓		✓	✓	✓	✓	✓
	CP series	✓		✓		✓	✓	✓	✓	✓
	S series	✓	✓	✓		✓	✓	✓	✓	✓
	S series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
DELTA	DVP series	✓	✓	✓		✓	✓	✓	✓	✓
	DVP series (MODBUS ASCII)	✓	✓	✓		✓	✓	✓	✓	✓
	DVP series (MODBUS TCP/IP)	✓	✓			✓	✓		✓	
EATON Cutler-Hammer	ELC	✓	✓	✓		✓	✓	✓	✓	✓
EMERSON	EC10/20/20H (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
FANUC	Power Mate	✓		✓		✓	✓	✓	✓	✓
Fatek Automation	FACON FB series	✓	✓	✓		✓	✓	✓	✓	✓
FESTO	FEC	✓		✓		✓	✓	✓	✓	✓
FUFENG	APC series Controller	✓	✓	✓		✓	✓	✓	✓	✓
GE Fanuc	90 series	✓	✓	✓		✓	✓	✓	✓	✓
	90 series (SNP-X)	✓		✓		✓	✓	✓	✓	✓
	90 series (SNP)	✓		✓		✓	✓	✓	✓	✓
	90 series(Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	RX3i (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
Hitachi	HIDIC-S10/2a,S10mini	✓		✓		✓	✓	✓	✓	✓
	HIDIC-S10/2a,S10mini (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	HIDIC-S10/4a	✓		✓		✓	✓	✓	✓	✓
	HIDIC-S10 (OPCN-1)					✓ *1	✓ *1		✓ *1	✓ *1
	HIDIC-S10V	✓		✓		✓	✓	✓	✓	✓
	HIDIC-S10V (Ethernet)	✓	✓			✓	✓		✓	✓ *2
Hitachi Industrial Equipment Systems	HIDIC-H	✓	✓	✓	✓	✓ *5	✓ *5	✓ *6	✓ *7	✓ *7
	HIDIC-H (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	HIDIC-EHV	✓	✓	✓	✓	✓	✓	✓	✓	✓
	HIDIC-EHV (Ethernet)	✓	✓			✓	✓		✓	✓ *2
HYUNDAI	Hi5 Robot (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	Hi4 Robot (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
IDEC	MICRO 3	✓	✓	✓		✓	✓	✓	✓	✓
	MICRO Smart	✓	✓	✓		✓	✓	✓	✓	✓
	MICRO Smart pentra	✓	✓	✓		✓	✓	✓	✓	✓
Jetter	JetControl series2/3 (Ethernet UDP/IP)	✓	✓				✓		✓	✓ *2
JTEKT	TOYOPUC	✓	✓	✓	✓	✓	✓	✓	✓	✓
	TOYOPUC (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	TOYOPUC (Ethernet PC10 mode)	✓	✓			✓	✓		✓	✓ *2
	TOYOPUC-Plus	✓	✓	✓		✓	✓	✓	✓	✓
	TOYOPUC-Plus (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	TOYOPUC-Nano (Ethernet)	✓	✓			✓	✓		✓	✓ *2
KEYENCE	KZ series Link	✓	✓	✓	✓	✓	✓	✓	✓	✓
	KZ-A500 CPU	✓		✓		✓	✓	✓	✓	✓
	KZ/KV series CPU	✓		✓		✓	✓	✓	✓	✓
	KZ24/300 CPU	✓		✓		✓	✓	✓	✓	✓
	KV10/24 CPU	✓		✓		✓	✓	✓	✓	✓
	KV-700	✓		✓		✓	✓	✓	✓	✓
	KV-700 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	KV-1000	✓		✓		✓	✓	✓	✓	✓
	KV-1000 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	KV-3000/5000	✓		✓		✓	✓	✓	✓	✓
	KV-3000/5000 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	KV-7000 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
KOYO ELECTRONICS	SU/SG	✓	✓	✓		✓	✓	✓	✓	✓
	SR-T (K protocol)	✓		✓		✓	✓	✓	✓	✓
	SU/SG (K-Sequence)	✓		✓		✓	✓	✓	✓	✓
	SU/SG (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
LS	MASTER-KxxxS	✓		✓		✓	✓	✓	✓	✓
	MASTER-KxxxS CNET	✓	✓	✓		✓	✓	✓	✓	✓
	MASTER-K series(Ethernet)	✓	✓			✓	✓		✓	✓ *2
	GLOFA CNET	✓	✓	✓		✓	✓	✓	✓	✓
	GLOFA GM7 CNET	✓	✓	✓		✓	✓	✓	✓	✓
	GLOFA GM series CPU	✓		✓		✓	✓	✓	✓	✓
	GLOFA GM series (Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	XGT/XGK series CNET	✓	✓	✓		✓	✓	✓	✓	✓
	XGT/XGK series CPU	✓		✓		✓	✓	✓	✓	✓
	XGT/XGK series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	XGT/XGI series CNET	✓	✓	✓		✓	✓	✓	✓	✓
	XGT/XGI series CPU	✓		✓		✓	✓	✓	✓	✓
	XGT/XGI series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
MITSUBISHI ELECTRIC	A series link	✓	✓	✓	✓	✓	✓	✓	✓	✓
	A series CPU	✓		✓		✓	✓	✓	✓	✓
	A series (OPCN-1)					✓ *1	✓ *1		✓ *1	✓ *1
	QnA series link	✓	✓	✓		✓	✓	✓	✓	✓
	QnA series CPU	✓		✓		✓	✓	✓	✓	✓
	QnA series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	QnH (Q) series link	✓	✓	✓		✓	✓	✓	✓	✓
	QnH (Q) series CPU	✓		✓		✓	✓	✓	✓	✓
	QnU series CPU	✓		✓		✓	✓	✓	✓	✓
	Q00J/00/01 CPU	✓		✓		✓	✓	✓	✓	✓
	QnH (Q) series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	QnH (Q) series link (multi CPU)	✓	✓	✓		✓	✓	✓	✓	✓
	QnH (Q) series (multi CPU) (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	QnH (Q) series CPU (multi CPU)	✓		✓		✓	✓	✓	✓	✓
	QnH (Q) series (Ethernet ASCII)	✓	✓			✓	✓		✓	✓ *2
	QnH (Q) series (multi CPU) (Ethernet ASCII)	✓	✓			✓	✓		✓	✓ *2
	QnU series (built-in Ethernet)	✓	✓			✓	✓		✓	✓ *2
	L series link	✓	✓	✓		✓	✓	✓	✓	✓
	L series (built-in Ethernet)	✓	✓			✓	✓		✓	✓ *2

Manufacturer	Models	Connection form				Compatible models				
		1:1	1:n Multi-drop	n : 1 Multi-link2	n : 1 Multi-link	V9	TS2060i	TS2060	V8i	V8
MITSUBISHI ELECTRIC	L series CPU	✓		✓		✓	✓	✓	✓	✓
	A series (CC-LINK)					✓ *1	✓ *1		✓ *1	✓ *1
	QnA series (CC-LINK)					✓ *1	✓ *1		✓ *1	✓ *1
	QnH (Q) series (CC-LINK)					✓ *1	✓ *1		✓ *1	✓ *1
	FX series CPU	✓		✓		✓ *3	✓ *3		✓ *4	✓ *4
	FX2N/1N series CPU	✓		✓		✓	✓	✓	✓	✓
	FX1S series CPU	✓		✓		✓	✓	✓	✓	✓
	FX series link (A protocol)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FX-3U/3UC/3G series CPU	✓		✓		✓	✓	✓	✓	✓
	FX-3U/3GE series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	FX-3U/3UC/3UG series link (A protocol)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FX-5U/5UC series	✓	✓	✓		✓	✓	✓	✓	✓
	FX-5U/5UC series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	A-link + Net10		✓			✓	✓	✓	✓	✓
	Q170MCPU (multi CPU)	✓		✓		✓	✓	✓	✓	✓
	Q170 series (multi CPU) (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	iQ-R series(Built-in Ethernet)	✓	✓			✓	✓		✓	✓ *2
	iQ-R series link	✓	✓	✓		✓	✓	✓	✓	✓
	iQ-R series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
MODICON	MODBUS RTU	✓		✓		✓	✓	✓	✓	✓
MOELLER	PS4	✓		✓		✓	✓	✓	✓	✓
OMRON	SYSMAC C	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SYSMAC C (OPCN-1)					✓ *1	✓ *1		✓ *1	✓ *1
	SYSMAC CV	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SYSMAC CS1/CJ1	✓	✓	✓		✓	✓	✓	✓	✓
	SYSMAC CS1/CJ1 DNA	✓	✓			✓	✓	✓	✓	✓
	SYSMAC CS1/CJ1 (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	SYSMAC CS1/CJ1 (Ethernet Auto)	✓	✓			✓	✓		✓	✓ *2
	SYSMAC CS1/CJ1 DNA (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	NJ Series (EtherNet/IP)	✓	✓			✓	✓		✓	
Panasonic	FP series (RS232C/422)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FP series (TCP/IP)	✓	✓			✓	✓		✓	
	FP series (UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	FP-X (TCP/IP)	✓	✓			✓	✓		✓	
	FP7 series (RS232C/422)	✓	✓	✓		✓	✓	✓	✓	✓
	FP7 series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
RS Automation	NX7/NX Plus series (70P/700P/CCU+)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NI7/NX series (70/700/750/CCU)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NX700 series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	X8 series	✓	✓	✓	✓	✓	✓	✓	✓	✓
	X8 series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
SAIA	PCD	✓	✓	✓		✓	✓	✓	✓	✓
	PCD S-BUS (Ethernet)	✓	✓			✓	✓		✓	✓ *2
SAMSUNG	SPC series	✓	✓	✓	✓	✓	✓	✓	✓	✓
	N_plus	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SECNET	✓	✓	✓	✓	✓	✓	✓	✓	✓
SHARP	JW series	✓	✓	✓	✓	✓	✓	✓	✓	✓
	JW100/70H COM port	✓	✓	✓	✓	✓	✓	✓	✓	✓
	JW20 COM port	✓	✓	✓	✓	✓	✓	✓	✓	✓
	JW series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	JW300 series	✓	✓	✓	✓	✓	✓	✓	✓	✓
	JW311/312/321/322 series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	JW331/332/341/342/352/362 series (Ethernet)	✓	✓			✓	✓		✓	✓ *2
Siemens	S5 PG port	✓	✓	✓		✓	✓	✓	✓	✓
	S7	✓		✓		✓	✓	✓	✓	✓
	S7-200 PPI	✓	✓		✓	✓	✓	✓	✓	✓
	S7-200 (Ethernet ISOTCP)	✓	✓			✓	✓		✓	
	S7-300/400 MPI	✓	✓			✓	✓	✓	✓	✓
	S7-300/400 (Ethernet ISOTCP)	✓	✓			✓	✓		✓	
	S7-300/400 (Ethernet TCP/IP PG Protocol)	✓	✓			✓	✓		✓	
	S7-1200/1500 (Ethernet ISOTCP)	✓	✓			✓	✓		✓	
	S7 PROFIBUS-DP					✓ *1	✓ *1		✓ *1	✓ *1
	TI500/505	✓	✓	✓		✓	✓	✓	✓	✓
	TI500/505 V4 Compatible	✓	✓	✓		✓	✓	✓	✓	✓
SINFONIA TECHNOLOGY	SELMART	✓	✓	✓	✓	✓	✓	✓	✓	✓
TECO	TP-03 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Telemecanique	TSX Micro				✓	✓	✓	✓	✓	✓
TOSHIBA	T series /V series (T compatible)	✓	✓	✓	✓	✓	✓	✓	✓	✓
	T series /V series (T compatible) (Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	EX series	✓	✓	✓		✓	✓	✓	✓	✓
	nv series(Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
TOSHIBA MACHINE	TC200	✓	✓	✓		✓	✓	✓	✓	✓
TOYO DENKI	µGPCsx (OPCN-1)					✓ *1	✓ *1		✓ *1	✓ *1
	µGPCsx (SX bus)					✓ *1	✓ *1		✓ *1	✓ *1
	µGPCsx series	✓		✓		✓	✓	✓	✓	✓
	µGPCsx CPU	✓		✓		✓	✓	✓	✓	✓
	µGPCsx series (Ethernet)	✓	✓			✓	✓		✓	
Turck	BL series Distributed I/O (MODBUS TCP/IP)	✓	✓			✓	✓		✓	
Ultra Instruments	UIC CPU (MODBUS ASCII)	✓		✓		✓	✓	✓	✓	✓
UNITRONICS	M90/M91/Vision series (ASCII)	✓	✓	✓		✓	✓	✓	✓	✓
	Vision series (ASCII Ethernet TCP/IP)	✓	✓			✓	✓		✓	
VIGOR	M series	✓	✓	✓		✓	✓	✓	✓	✓
WAGO	750 series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	750 series (MODBUS Ethernet)	✓	✓			✓	✓		✓	
XINJE	XC series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Yaskawa Electric	Memobus	✓	✓	✓		✓	✓	✓	✓	✓
	CP9200SH/MP900	✓	✓	✓		✓	✓	✓	✓	✓
	MP2300 (MODBUS TCP/IP)	✓	✓			✓	✓		✓	
	CP MP expansion memobus (UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	MP2000 series	✓	✓	✓		✓	✓	✓	✓	✓
	MP2000 series (UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	MP3000 series	✓	✓	✓		✓	✓	✓	✓	✓
	MP3000 series (Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	MP3000 series expansion memobus (Ethernet)	✓	✓			✓	✓		✓	✓ *2
Yokogawa Electric	FA-M3	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FA-M3R	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FA-M3/FA-M3R (Ethernet UDP/IP)	✓	✓			✓	✓		✓	✓ *2
	FA-M3/FA-M3R (Ethernet UDP/IP ASCII)	✓	✓			✓	✓		✓	✓ *2
	FA-M3/FA-M3R (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
	FA-M3/FA-M3R (Ethernet TCP/IP ASCII)	✓	✓			✓	✓		✓	
	FA-M3V	✓	✓	✓	✓	✓	✓	✓	✓	✓
	FA-M3V (Ethernet)	✓	✓			✓	✓		✓	✓ *2
	FA-M3V (Ethernet ASCII)	✓	✓			✓	✓		✓	✓ *2
Others	Universal serial	✓	✓			✓	✓	✓	✓	✓
	FL-Net					✓ *1	✓ *1		✓ *1	✓ *1
	PROFIBUS-DP					✓ *1	✓ *1		✓ *1	✓ *1
	DeviceNet					✓ *1	✓ *1		✓ *1	✓ *1
	EtherCAT					✓ *1				
	Without PLC Connection					✓	✓	✓	✓	✓
	MODBUS RTU	✓	✓	✓		✓	✓	✓	✓	✓
	MODBUS RTU EXT Format	✓	✓	✓		✓	✓	✓	✓	✓
	MODBUS TCP/IP (Ethernet)	✓	✓			✓	✓		✓	
	MODBUS TCP/IP (Ethernet) Sub Station	✓	✓			✓	✓		✓	
	MODBUS TCP/IP (Ethernet) EXT Format	✓	✓			✓	✓		✓	
	MODBUS ASCII	✓	✓	✓		✓	✓	✓	✓	✓

*1 For V9 and TS2060i, a communication unit "CUR-xx" is required. For V8, a communication unit "CU(N)-xx" is required. *2 A communication unit "CU(N)-03-x" is required. It does not support TCP/IP connection. *3 For V907xW, V906 and TS2060i, an optional unit "DUR-00" is required. *4 For V806, an optional unit "DU(N)-10" is required. *5 An optional unit "DUR-00" is required when connecting V907xW, V906, or TS2060i using RS-232C. *6 RS-232C connection is not supported. *7 An optional unit "DU(N)-10" is required when connecting V806 using RS-232C.

Temperature Controller / Servo / Inverter Connection - Summary

As of September 2018

Manufacturer	Models	Connection form				Compatible models				
		1:1	1:n Multi-drop	n : 1 Multi-link2	n : 1 Multi-link	V9	TS2060i	TS2060	V8i	V8
Fuji Electric	PYX (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	PXR (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	PXF (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	PXG (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	PXH (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	PUM (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	F-MPC04P (loader)	✓	✓	✓		✓	✓	✓	✓	✓
	F-MPC series/FePSU	✓	✓	✓		✓	✓	✓	✓	✓
	FVR-E11S	✓	✓	✓		✓	✓	✓	✓	✓
	FVR-E11S (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FVR-C11S (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC5000 G11S/P11S	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC5000 G11S/P11S (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC5000 VG7S (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-Ace (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-Eco (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-HVAC/AQUA (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-MEGA (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-MEGA SERVO (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-Mini (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-Multi (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC-VG1 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FRENIC series (loader)	✓	✓	✓		✓	✓	✓	✓	✓
	HFR-C9K	✓	✓	✓		✓	✓	✓	✓	✓
	HFR-C11K	✓	✓	✓		✓	✓	✓	✓	✓
	HFR-K1K	✓	✓	✓		✓	✓	✓	✓	✓
	PPMC (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FALDIC-α series	✓	✓	✓		✓	✓	✓	✓	✓
	FALDIC-W series	✓	✓	✓		✓	✓	✓	✓	✓
	PH series	✓	✓	✓		✓	✓	✓	✓	✓
	PHR (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	WA5000	✓	✓	✓		✓	✓	✓	✓	✓
	APR-N (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	ALPHA5 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	ALPHA5 Smart (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	WE1MA (Ver. A)(MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	WE1MA (Ver. B)(MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	WSZ series	✓	✓	✓		✓	✓	✓	✓	✓
	WSZ series (Ethernet)	✓	✓			✓	✓		✓	
Agilent	4263 series	✓		✓		✓	✓	✓	✓	✓
ASAHI ENGINEERING	Stepping Motor	✓		✓		-	✓	✓	✓	✓
Azbil	SDC10	✓	✓	✓		✓	✓	✓	✓	✓
	SDC15	✓	✓	✓		✓	✓	✓	✓	✓
	SDC20	✓	✓	✓		✓	✓	✓	✓	✓
	SDC21	✓	✓	✓		✓	✓	✓	✓	✓
	SDC25/26	✓	✓	✓		✓	✓	✓	✓	✓
	SDC30/31	✓	✓	✓		✓	✓	✓	✓	✓
	SDC35/36	✓	✓	✓		✓	✓	✓	✓	✓
	SDC45/46	✓	✓	✓		✓	✓	✓	✓	✓
	SDC40A	✓	✓	✓		✓	✓	✓	✓	✓
	SDC40G	✓	✓	✓		✓	✓	✓	✓	✓
	DMC10	✓	✓	✓		✓	✓	✓	✓	✓
	DMC50 (COM)	✓	✓	✓		✓	✓	✓	✓	✓
	AHC2001	✓	✓	✓		✓	✓	✓	✓	✓
	AHC2001+DCP31/32	✓	✓	✓		✓	✓	✓	✓	✓
	DCP31/32	✓	✓	✓		✓	✓	✓	✓	✓
	NX (CPL)	✓	✓	✓		✓	✓	✓	✓	✓
	NX (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	NX (MODBUS TCP/IP)	✓	✓			✓	✓		✓	
A&D	AD4402 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	AD4404 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Banner	Presence PLUS (Ethernet/IP (TCP/IP))	✓	✓			✓	✓		✓	
Bosh Rexroth	Indra Drive		✓			✓	✓	✓	✓	✓
CHINO	LT400 series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	DP1000	✓	✓	✓		✓	✓	✓	✓	✓
	DB1000B (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	KR2000 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	LT230 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	LT300 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	LT830 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
DELTA TAU DATA SYSTEMS	PMAC	✓		✓		✓	✓	✓	✓	✓
	PMAC (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
Gammaflux	TTC2100	✓	✓	✓		✓	✓	✓	✓	✓
Hitachi Industrial Equipment Systems	SJ300 series	✓	✓	✓		✓	✓	✓	✓	✓
	SJ700 series	✓	✓	✓		✓	✓	✓	✓	✓
IAI	X-SEL controller	✓	✓	✓		✓	✓	✓	✓	✓
	ROBO CYLINDER (RCP2/ERC)	✓	✓	✓		✓	✓	✓	✓	✓
	ROBO CYLINDER (RCS/E-CON)	✓	✓	✓		✓	✓	✓	✓	✓
	PCON/ACON/SCON (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Koatsy Gas Kogyo	R-BLT	✓	✓			✓	✓	✓	✓	✓
KOGANEI	IBFL-TC	✓	✓	✓		✓	✓	✓	✓	✓
Lenze	Servo Drive 9400 (Ethernet TCP/IP)	✓		✓		✓	✓		✓	
MITSUBISHI ELECTRIC	FR-*500	✓	✓	✓		✓	✓	✓	✓	✓
	FR-V500	✓	✓	✓		✓	✓	✓	✓	✓
	MR-J2S-*A	✓	✓	✓		✓	✓	✓	✓	✓
	MR-J2S-*CL	✓	✓	✓		✓	✓	✓	✓	✓
	MR-J3-*A	✓	✓	✓		✓	✓	✓	✓	✓
	MR-J3-*T	✓	✓	✓		✓	✓	✓	✓	✓
	MR-J4-*A	✓	✓	✓		✓	✓	✓	✓	✓
	FR-E700	✓	✓	✓		✓	✓	✓	✓	✓
MOOG	J124-04x series	✓	✓	✓		✓	✓	✓	✓	✓

Manufacturer	Models	Connection form				Compatible models				
		1:1	1:n Multi-drop	n : 1 Multi-link2	n : 1 Multi-link	V9	TS2060i	TS2060	V8i	V8
M-SYSTEM	R1M series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
OMRON	E5AK	✓	✓	✓		✓	✓	✓	✓	✓
	E5AK-T	✓	✓	✓		✓	✓	✓	✓	✓
	E5AN/E5EN/E5CN/E5GN	✓	✓	✓		✓	✓	✓	✓	✓
	E5AR/E5ER	✓	✓	✓		✓	✓	✓	✓	✓
	E5CK	✓	✓	✓		✓	✓	✓	✓	✓
	E5CK-T	✓	✓	✓		✓	✓	✓	✓	✓
	E5CN-HT	✓	✓	✓		✓	✓	✓	✓	✓
	E5EK	✓	✓	✓		✓	✓	✓	✓	✓
	E5ZD	✓	✓	✓		✓	✓	✓	✓	✓
	E5ZE	✓	✓	✓		✓	✓	✓	✓	✓
	E5ZN	✓	✓	✓		✓	✓	✓	✓	✓
	V600/620/680	✓	✓	✓		✓	✓	✓	✓	✓
	KM20	✓	✓	✓		✓	✓	✓	✓	✓
	KM100	✓	✓	✓		✓	✓	✓	✓	✓
	V680S (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
Oriental Motor	High-efficiency AR series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	CRK series (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Panasonic	LP-400	✓		✓		✓	✓	✓	✓	✓
	KW series	✓	✓	✓		✓	✓	✓	✓	✓
	MINAS A4 series	✓	✓	✓		✓	✓	✓	✓	✓
RKC	SR-Mini (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	CB100/CB400/CB500/CB700/CB900 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	SR-Mini (Standard Protocol)	✓	✓	✓		✓	✓	✓	✓	✓
	REX-F400/F700/F900 (Standard Protocol)	✓	✓	✓		✓	✓	✓	✓	✓
	REX-F9000 (Standard Protocol)	✓	✓	✓		✓	✓	✓	✓	✓
	SRV (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	MA900/MA901 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	SRZ (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	FB100/FB400/FB900 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
RS Automation	CSD5 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	Moscon-F50 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
SANMEI	Cuty Axis	✓	✓	✓		✓	✓	✓	✓	✓
SanRex	DC AUTO (HKD type)	✓	✓	✓		✓	✓	✓	✓	✓
SHARP	DS-30D	✓	✓	✓		✓	✓	✓	✓	✓
	DS-32D	✓	✓	✓		✓	✓	✓	✓	✓
SHIMADEN	SHIMADEN standard protocol	✓	✓	✓		✓	✓	✓	✓	✓
SHINKO TECHNOS	C series	✓	✓	✓		✓	✓	✓	✓	✓
	FC series	✓	✓	✓		✓	✓	✓	✓	✓
	GC series	✓	✓	✓		✓	✓	✓	✓	✓
	DCL-33A	✓	✓	✓		✓	✓	✓	✓	✓
	JCx-300 series	✓	✓	✓		✓	✓	✓	✓	✓
	PC-900	✓	✓	✓		✓	✓	✓	✓	✓
	PCD-33A	✓	✓	✓		✓	✓	✓	✓	✓
	ACS-13A	✓	✓	✓		✓	✓	✓	✓	✓
	ACD/ACR series	✓	✓	✓		✓	✓	✓	✓	✓
	WCL-13A	✓	✓	✓		✓	✓	✓	✓	✓
Siemens	S120 (Ethernet ISOTCP)	✓	✓			✓	✓		✓	
SUS	XA-A*	✓		✓		✓	✓	✓	✓	✓
TOHO	TTM-000	✓	✓	✓		✓	✓	✓	✓	✓
	TTM-00BT	✓	✓	✓		✓	✓	✓	✓	✓
	TTM-200 (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
Tokyo Chokoku Marking Products	MB3315/1010	✓				✓	✓	✓	✓	✓
TOSHIBA	VF-S7	✓	✓	✓		✓	✓	✓	✓	✓
	VF-S9	✓	✓	✓		✓	✓	✓	✓	✓
	VF-S11	✓	✓	✓		✓	✓	✓	✓	✓
	VF-S15	✓	✓	✓		✓	✓	✓	✓	✓
	VF-A7	✓	✓	✓		✓	✓	✓	✓	✓
	VF-AS1	✓	✓	✓		✓	✓	✓	✓	✓
	VF-P7	✓	✓	✓		✓	✓	✓	✓	✓
	VF-PS1	✓	✓	✓		✓	✓	✓	✓	✓
	VF-FS1	✓	✓	✓		✓	✓	✓	✓	✓
	VF-MB1	✓	✓	✓		✓	✓	✓	✓	✓
	VF-nC1	✓	✓	✓		✓	✓	✓	✓	✓
	VF-nC3	✓	✓	✓		✓	✓	✓	✓	✓
TOSHIBA MACHINE	VELCONIC series		✓			✓	✓	✓	✓	✓
ULVAC	G-TRAN series	✓	✓	✓		✓	✓	✓	✓	✓
UNIPULSE	F340A	✓	✓	✓		✓	✓	✓	✓	✓
	F371	✓	✓	✓		✓	✓	✓	✓	✓
	F800	✓	✓	✓		✓	✓	✓	✓	✓
	F720A	✓	✓	✓		✓	✓	✓	✓	✓
	F805A	✓	✓	✓		✓	✓	✓	✓	✓
YAMAHA	RCX142	✓		✓		✓	✓	✓	✓	✓
Yaskawa Electric	DX200 (High-Speed Ethernet)	✓	✓			✓	✓		✓	✓ *1
Yokogawa Electric	UT100	✓	✓	✓		✓	✓	✓	✓	✓
	UT750	✓	✓	✓		✓	✓	✓	✓	✓
	UT550	✓	✓	✓		✓	✓	✓	✓	✓
	UT520	✓	✓	✓		✓	✓	✓	✓	✓
	UT350	✓	✓	✓		✓	✓	✓	✓	✓
	UT320	✓	✓	✓		✓	✓	✓	✓	✓
	UT2400/2800	✓	✓	✓		✓	✓	✓	✓	✓
	UT450	✓	✓	✓		✓	✓	✓	✓	✓
	UT32A/35A (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	UT52A/55A (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	UT75A (MODBUS RTU)	✓	✓	✓		✓	✓	✓	✓	✓
	μR10000/20000 (Ethernet TCP/IP)	✓	✓			✓	✓		✓	
Others	MODBUS RTU	✓	✓	✓		✓	✓	✓	✓	✓
	MODBUS TCP/IP (Ethernet)	✓	✓			✓	✓		✓	

*1 A communication unit "CU(N)-03-x" is required. It does not support TCP/IP connection.

⚠ Safety Considerations

- For safe operation, read the instruction manual or user manual that comes with the product carefully or consult the distributor from which you purchased the product, before using the product.
- Products introduced in this catalog have not been designed or manufactured for such applications in a system or equipment that will affect human bodies or lives.
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- For safe operation, wiring should be conducted only by qualified engineers who have sufficient technical knowledge about electrical work or wiring.

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2019-8(F18/F18) 0.3 Printed in USA