

Programmable Operator Interface

MONITOUCH

⚠ 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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www.monitouch.com

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V9 series
V9 makes automation complete.

Hakko Electronics Co., Ltd.

The new MONITOUCH series scales new heights of excellence ; optimum operability, intuitive controls, and extended capability to display and utilize your application.

On its release in 1988 as the first ever programmable display*, MONITOUCH augured 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.

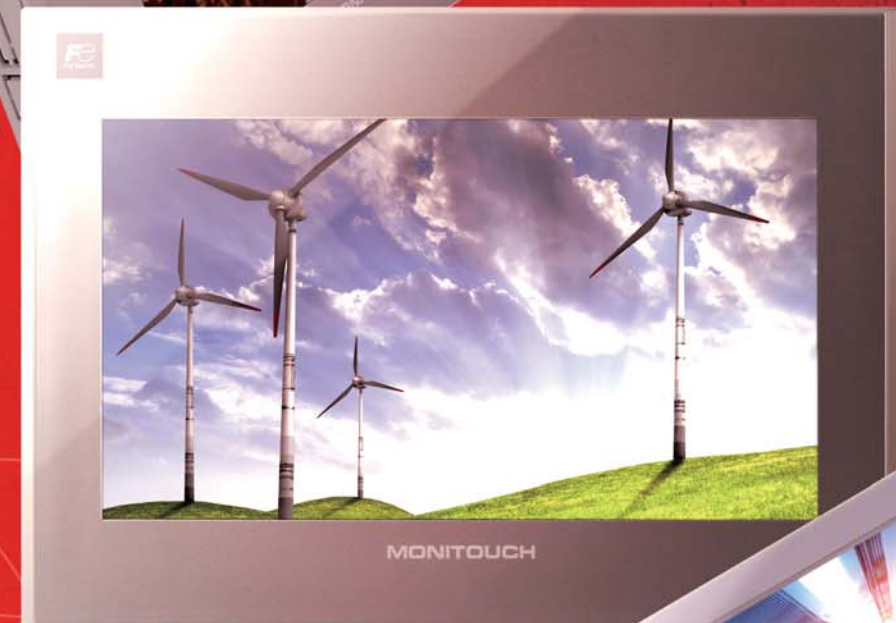
Now, Hakko Electronics Co., Ltd. has introduced its new range with an impressive array of exciting new cutting-edge features expressly designed to meet the needs of our clients.

The MONITOUCH PREMIUM series, the next generation of programmable displays, is here.

*According to our own research.



V9 Standard
High performance model



V9 Advanced
High resolution widescreen LCD
with wireless LAN



V9 Lite
Basic model

MONITOUCH V9 series

04..... V9: Lineup
06..... V9: Features 1
08..... V9: Features 2
10..... V9: Extended Functions 1
12..... V9: Extended Functions 2
14..... V-SFT Ver.6

16..... V9: Specifications
17..... V9: System Configuration
18..... V9: Dimensions & Part Names
19..... V9: Optional Units
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22..... V8: Lineup
23..... V8: Specifications
24..... V8: Dimensions & Parts Names
25..... V8: Accessories
26..... Service & Support
27..... Product Warranty

We provide a wide range of display, with wide
The V9 series lineup helps to establish the most
fulfilling the needs of automation.

range of functionalities.
efficient information system

V9 Advanced



7 inches WVGA (800×480)

- V9071iWRD
- V9071iWLD

Under development



10.1 inches WSVGA (1024×600)

- V9101iWRD
- V9101iWLD

Under development

V9 Standard



8.4 inches SVGA (800×600)

- V9080iSD

To be released in May 2014



10.4 inches SVGA (800×600)

- V9100iS
- V9100iSD

To be released in May 2014



12.1 inches SVGA (800×600)

- V9120iS
- V9120iSD

Under development

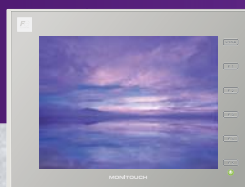


15 inches XGA (1024×768)

- V9150iX
- V9150iXD

Under development

V9 Lite



5.7 inches VGA (640×480)

- V9060iTD

Under development



8.4 inches VGA (640×480)

- V9080iCD

To be released in May 2014

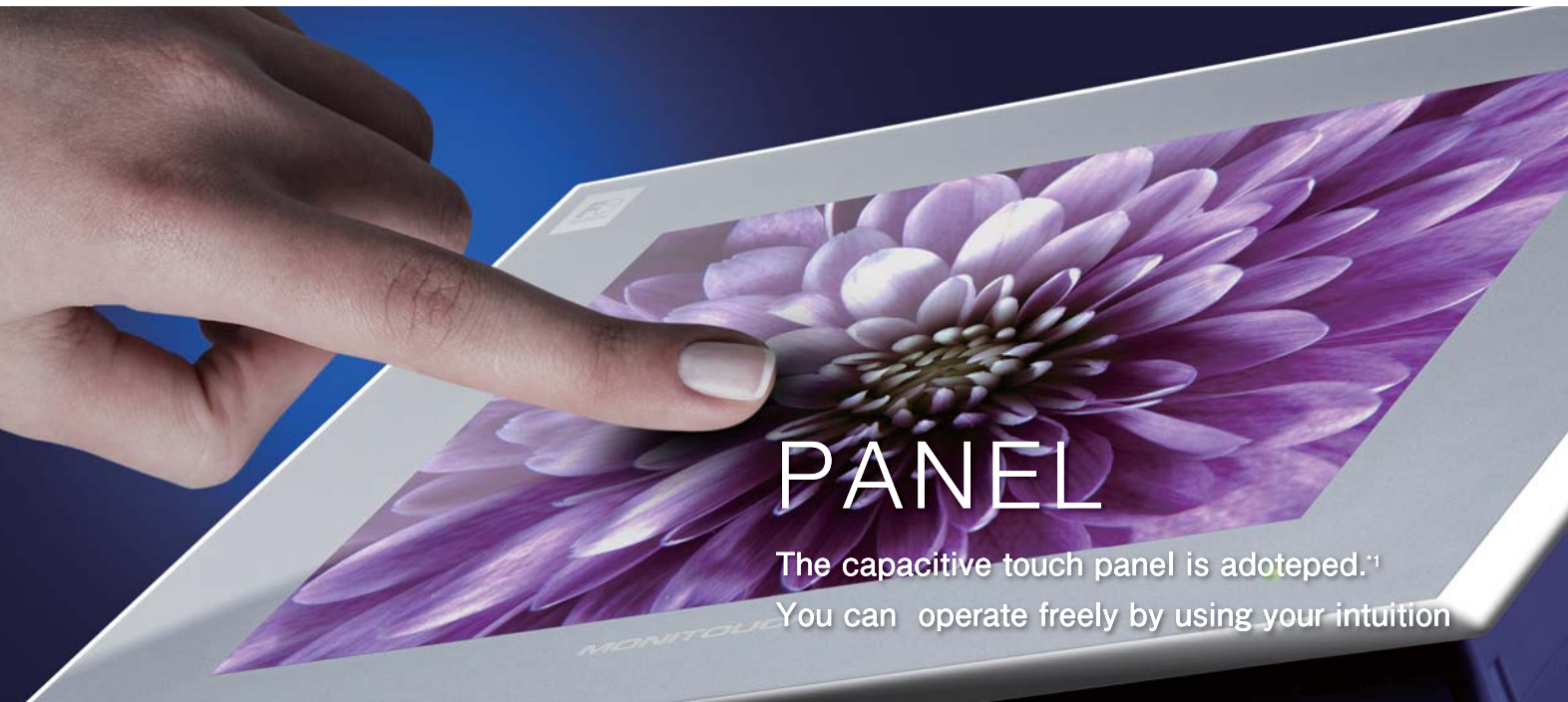


10.4 inches VGA (640×480)

- V9100iC
- V9100iCD

To be released in May 2014

Kindness to our customers is the origin of

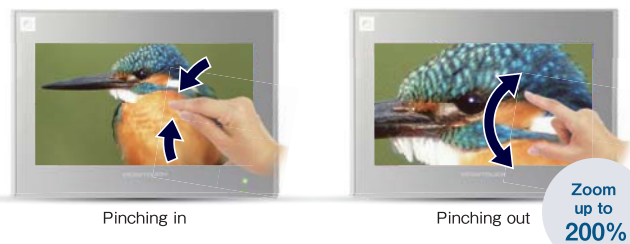


*1: Only V9 advanced model.

Smooth Operation with Your Fingers

Zooming In and Out with Two Fingers V9 Advanced

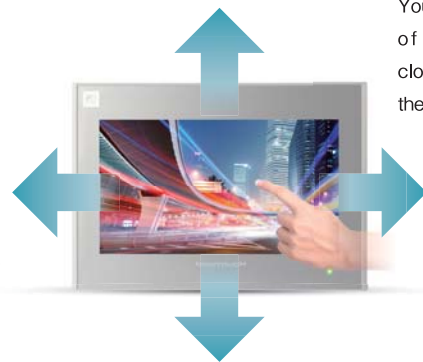
The displayed image can be magnified up to 200% by pinching out the screen², and reduced to the original size by pinching it in.



*2: The image can be scaled up and down by double tapping for V9 Standard/Lite.

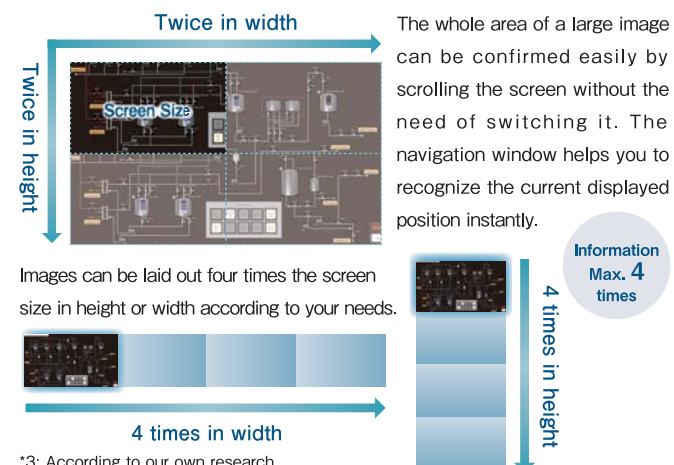
Scrolling Magnified Images

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



Abundant Quantity of Information

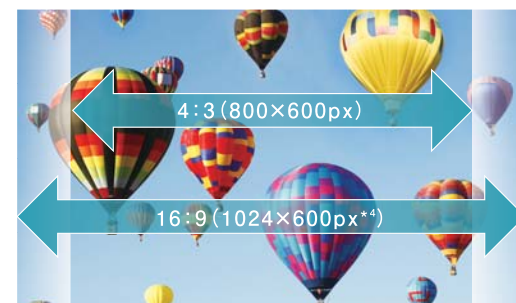
Displaying Four Times the Screen Size First in industry



*3: According to our own research.

Widescreen LCD V9 Advanced

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



*4: Only V9101IW.

evolution of MONITOUCH.

Enhanced Display Capacity

TrueType Fonts for Clear Expression

TrueType fonts have been added, and the new anti-aliasing function ensures clear expression. There is no need to worry about memory capacity, because TrueType fonts need less memory compared with Windows fonts.



Beautiful and Practical Icons



The number of optional icons has been more beautiful and easy-to-understand. The icons are PNG files, so there is no worry about the display capacity.

7-segment Fonts for Realistic Expression



7-segment fonts allow for realistic, highly visible expression of measuring instruments.

Versatile Screen Transition Functions

15 kinds⁵ of functions are available for screen switching and overlapping.

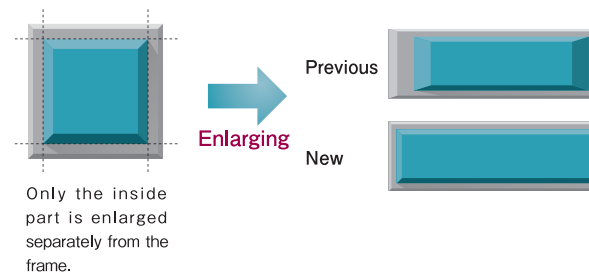


*5: Four types for overlapping windows.

15 kinds
of screen
change

Improved 3D Parts Enlargement Function

The form of 3D parts are remained even when they are enlarged.⁶



*6: Only square switches / lamps.

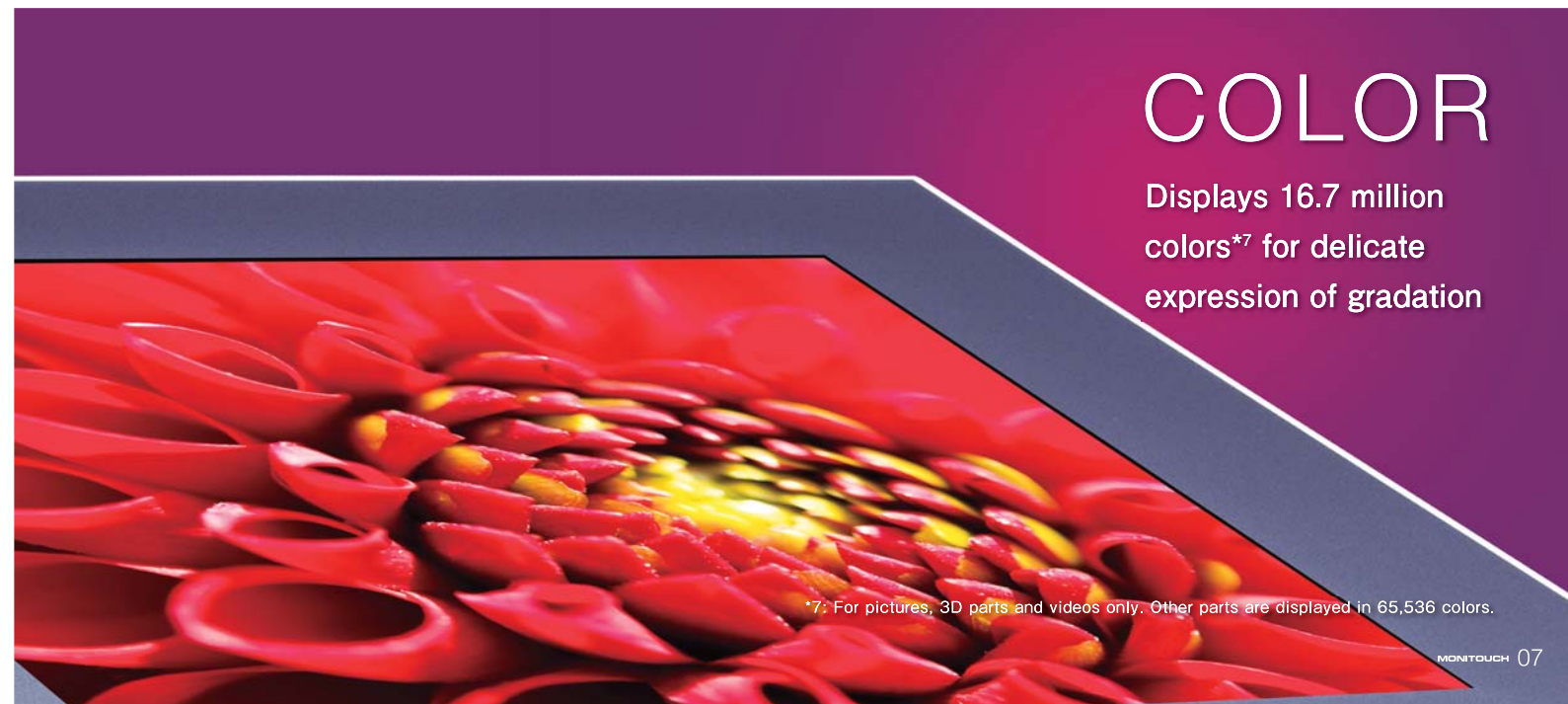
Compatible with Vertical Placement

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



COLOR

Displays 16.7 million colors⁷ for delicate expression of gradation



*7: For pictures, 3D parts and videos only. Other parts are displayed in 65,536 colors.

Easy and safe network monitoring and control



VNC Server Function

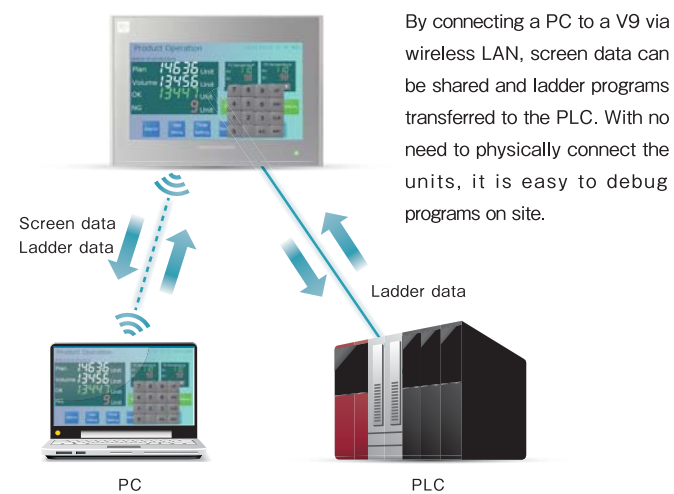
Remote Connection from Tablet PCs

All types of the V9 series are equipped with VNC server function for remote monitoring and control of production from your tablet PC.



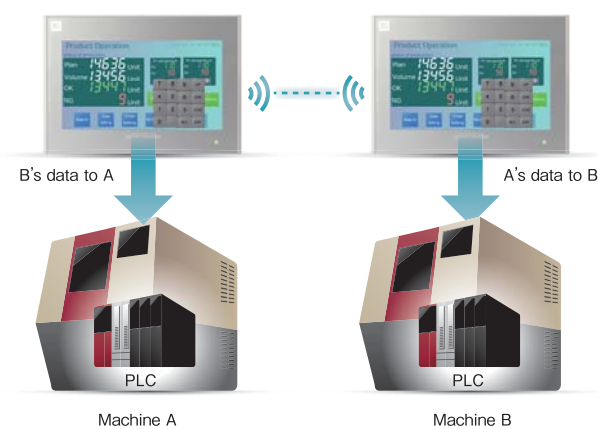
Wireless LAN Function

Wireless Data Transfer



Data Transfer via V9 Panels

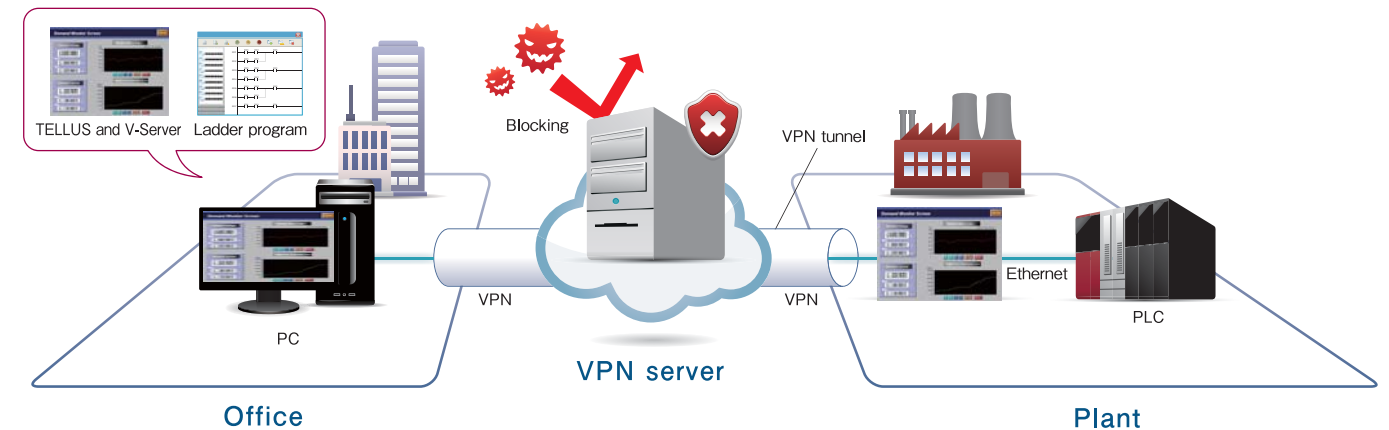
Production data can be transferred between machines using V9 panels as a gateway.



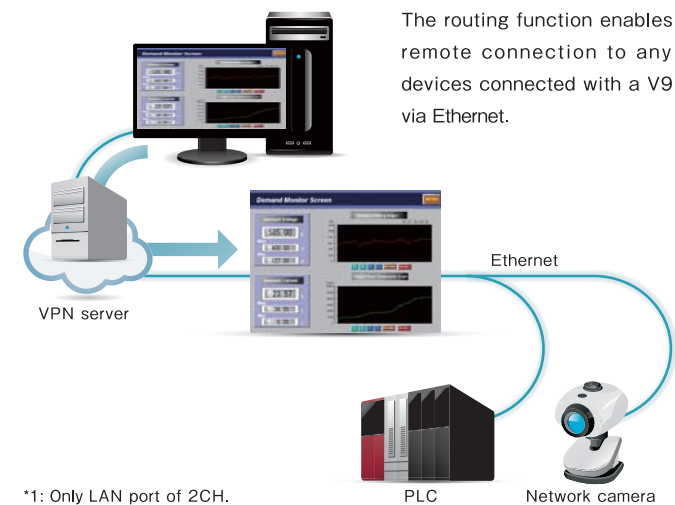
Networking

Secure, Easy and Low-cost Communication by VPN Function (Scheduled in July 2014)

The VPN function, which constructs a virtual private network within a public network, enables secure remote monitoring at low cost.



Router Function for Remote Connection^{*1} V9 Advanced

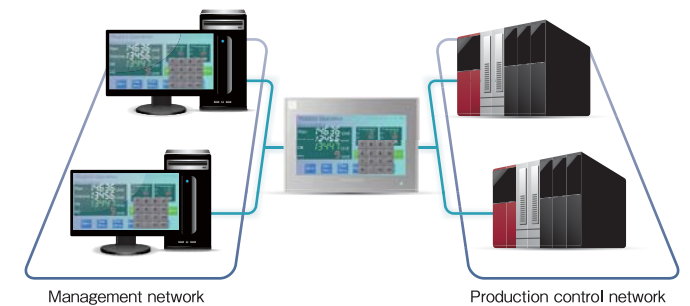


^{*1}: Only LAN port of 2CH.

LAN Ports Connecting to Two Networks^{*2}

Two networks can be connected via a V9 as a gateway.

^{*2}: Other models except for advanced models need an optional communication unit (under development). Please contact us for details.



Easy verification of daily data and error reports



LOGGING

Improved functions for displaying trend data and alarms

Trend Data Display

Backup Data Display



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




Backup files

Easy Creation of Backup Files


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



Backup file



or



Destination for data save can be selected freely.

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.

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.




Logging start/stop




Logging start/stop

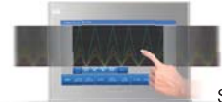
Magnification of Trend Graph Scale



Scale-up




Scale-down



Scrolling

The time scale of trend graph can be magnified, and the display can be scrolled by touch and drag.



Running Emergency Messages



Flowing Messa

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

Convenient tools for scrolling



Move message area Fast-forwarding Stop

Screen Overlapping

Improved Overlapping Functions

Up to 10 windows can be overlapped on the screen.

You can make all ten windows transparent at the same time.

All of the ten windows can be left displayed even when the screen is changed.



10 windows at once





Select items to display constantly.

Four-times of Normal Overlapping Windows

Four times more information than of normal overlapping windows can be registered and used as sub screen.



Various Screen Transition Functions

Four kinds of functions such as slide-in and fade-out are available for screen switching and overlapping.



OVERLAP

Exponentially improved display performance by extended functions

Easy and smooth operation with new functions

SETTING

Various setting functions
for improving usability

Display Functions

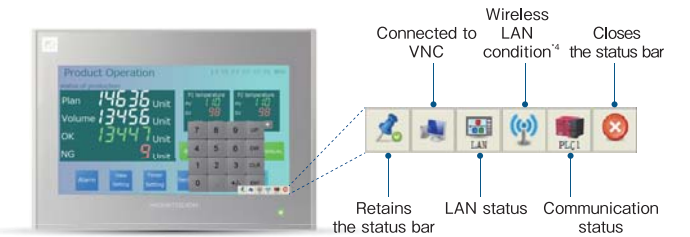
Customization of the Splash Screen

The splash screen displayed during operation can be customized freely.



Display of V9 Status

The status of V9 is displayed in the status bar.^{*3}



^{*3}: Items in the status bar may be added or changed.

^{*4}: Scheduled in Autumn 2014

Easy-to-see Error Indication



Indication of a communication error
When Comm Error Handling is set to "Disconnected", the item with an error is indicated with an error icon at the top right.

Improvement of error messages
An error is described in a sentence for easy comprehension.

System Keyboard Available

A versatile keyboard for inputting upper and lower case letters and numbers is available for easy setting.

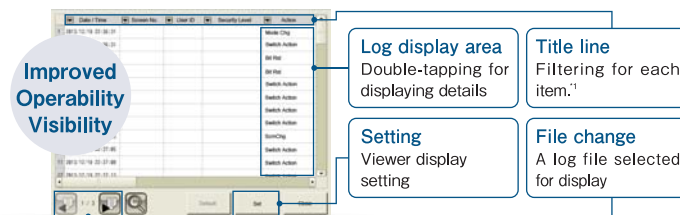
Select the system keyboard from the set menu.



Operation Log

Improved Operation Log Viewer

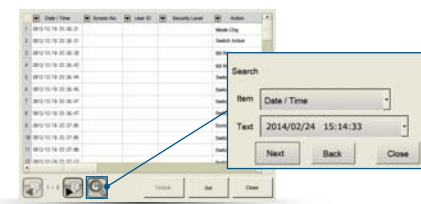
The operability and visibility of the log viewer have been improved.



^{*1} Scheduled in Autumn 2014.

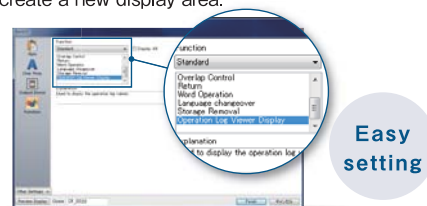
Search Function(Scheduled in Autumn 2014)

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



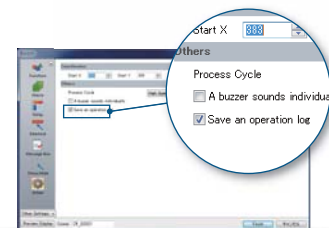
Log Viewer as Standard Specification

The log viewer is simply accessed by selecting it from the drop-down menu. There is no need to create a new display area.



Setting by Item

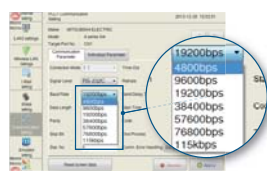
Operation log creation is set for individual switch and input.



Setting in Local Windows^{*2}

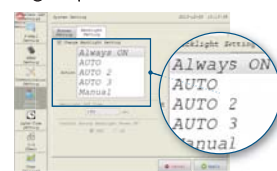
Easy Monitoring and Setting of Communication, Backlight and Buzzer

Communication with other devices is set on a V9.



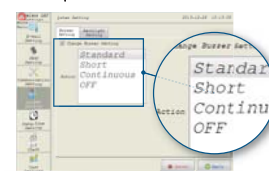
Communication setting

Backlight operation is set on a V9.



Backlight setting

Buzzer operation is set on a V9.



Buzzer setting

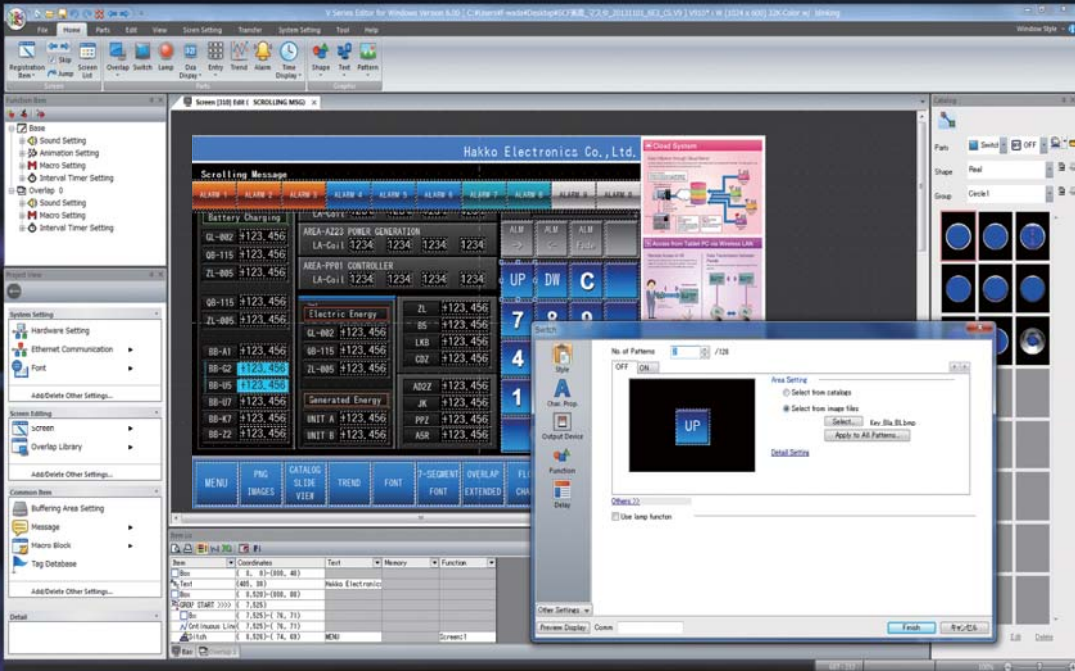
^{*2}: The contents of local windows are subject to change.

INFORMATION

Visualizing information
for prompt recognition

MONITOUCH
V9
series

Simple configuration of beautiful screens



V-SFT_{ver.6}

PC	PC/AT compatible machine with Windows
OS*	Windows XP/XP 64Edition/Vista 32bit/Vista 64bit/Win 7 32bit/Win 7 64bit/Win 8 32bit/Win 8 64bit
CPU	Pentium III 800MHz or higher (Pentium4 2.0GHz or higher is recommended)
Memory	512MB or more
Hard disk	For installation: 1.8GB or more available space
CD-ROM disk drive	24 times or faster
Display	Resolution: 1024×768 (XGA) or more
Color indication	High color (16 bit) or higher
Others	Microsoft .NET Framework 4.0 or 4.5 is required. (When .NET Framework 4.0 or 4.5 has not been installed in PC, Framework 4.0 is installed automatically.)

*1: For installing the OS, administrator authority is required.

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
Popular simple icons that are used widely on smartphones have been introduced.



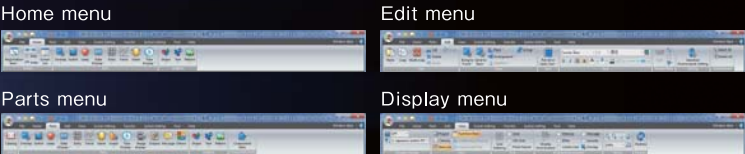
Increased picture icons
The number of the picture icons has been increased.



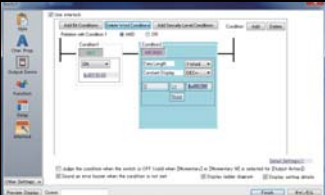
Upgraded Operability

Ribbon Menu

The ribbon-shaped menu bar is available. Enlarged icons are easily visible also improves the operability remarkably.



Ladder Diagram for Interlock



Interlocking operations can be set on the ladder diagram, which makes it easy to grasp the settings and set multiple conditions.

Graphic Indication of System Configuration

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



Docking Windows

The project view windows and item view windows can be docked or floated easily.



Integration of Search menu

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



Facilitation of Screen Configuration

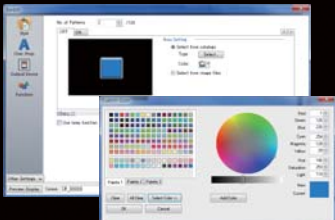
Guided Setting Process

With the help of the clear instructions in the dialog, setting can be conducted smoothly and collectively.



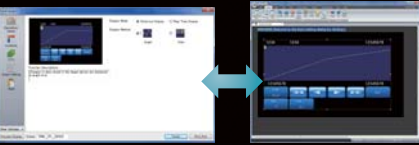
A Wider Range of Colors for Component Parts

65,536 colors are available for components parts.



Visualization of Setting

Set conditions can be confirmed on the preview screen before completing setting. By switching the preview screen and setting dialog, the setting can be confirmed easily even on a PC with low resolution.



High-end specifications realize smooth

General Specifications

	Item	V9101IW ¹	V9100IS	V9100IC	V9080IS	V9080IC
Power supply	Rated voltage	24V DC	100-240V AC/ 24V DC		DC24V	
	Permissible range of voltage	±10%	AC: -15%, +10%/ DC: ±10%		±10%	
	Permissible momentary power failure	within 1ms	AC within 20ms, DC within 1ms		within 1ms	
	Demand (maximum rating)	27W or less	AC: 70VA or less/ DC: 28W or less	AC: 50VA or less/ DC: 17W or less	28W or less	17W or less
Insulation resistance		DC500V 10MΩ or more				
Physical environment	Ambient temperature	0~50℃ ²				
	Ambient humidity	85%RH or less (without dew condensation) ²				
	Operation altitude	2,000 meters or lower				
	Atmosphere	Not to be exposed to corrosive gas, or conductive dust				
	Storage temperature	-10~60℃ ²				
	Storage humidity	85%RH or less (without dew condensation) ²				
	Overvoltage category	Category II				
	Contamination level	Level 2				
Mechanical operating conditions	Resistance to oscillation	Complies with JIS B 3502 (IEC61131-2) Vibration frequency: 5~9Hz, pulsating with:3.5mm, 9~150Hz, Acceleration: 9.8m/s ² (1G),X,Y,Z: 3 directions (10 times each)				
	Resistance to shock	Complies with JIS B 3502 (IEC61131-2) Peak acceleration: 147m/s ² (15G), X,Y,Z: 3 directions, three 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			
	Resistance to static discharge	Complies with IEC61000-4-2, contact: 6kV, air: 8kV				
Installation conditions	Grounding	Grounding resistance: Less than 100Ω, FG/SG separation				
	Structure	Protect structure: Front panel: NEMA #250 TYPE 4X (indoor), TYPE 13 ³ , equivalent to IP66 (when water-proof gasket is used.), Rear cover: Compatible with IP20, Form: Single unit, Installation method: Panel mounting				
	Cooling system	Natural air cooling				
	Dimensions W*H*D(mm)	278.5×198.5×53.2	303.8×231.0×54.0		235.0×180.0×48.9	
	Panel cutout (mm)	257.0×183.0(+0.5/-0)	289.0×216.2(+0.5/-0)		220.5×165.5(+0.5/-0)	
Case color		Light gray				
Material		PC				

Performance Specifications

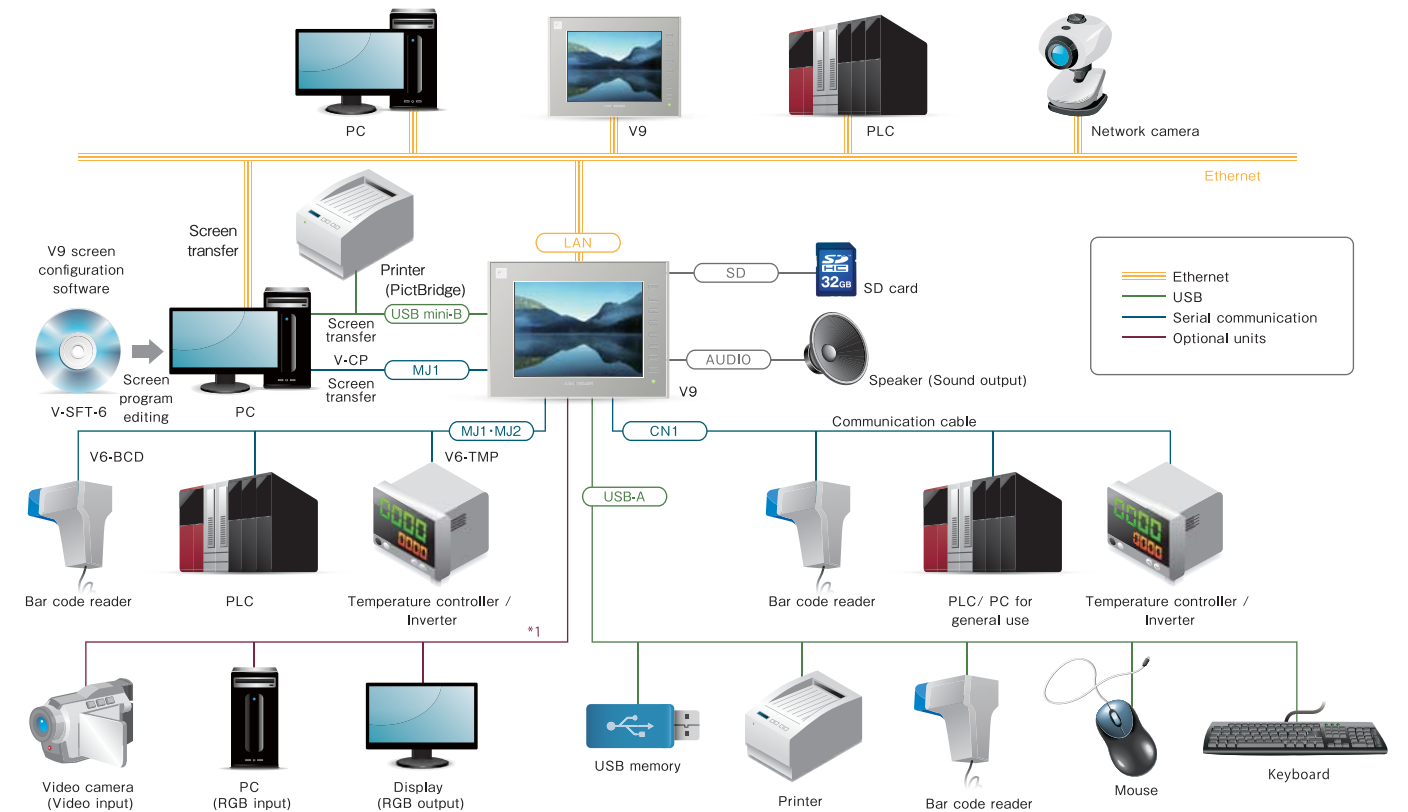
Item		V9101IW ¹	V9100IS	V9100IC	V9080IS	V9080IC
Screen memory (FROM)		64MB				
Backup memory (SRAM)		800KB				
Display	Display device	TFT color LCD				
	Resolution	1024×600	800×600	640×480	800×600	640×480
	Display size	10.1″	10.4″			8.4″
	Colors	16.7 million ⁴				
	Backlight	LED				
	Backlight life	50,000 hours	70,000 hours			
Touch switch	Type	Capacitance	Analog resistance film			
Function switch	Quantity	None	8			
External interface	D-Sub 9-pin (CN1)	RS-232C/ 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, 57600, 76800, 115200,187500 ⁵ bps				
	Modular 8-pin (MJ1/ MJ2)	RS-232C/ RS-422/485 (two-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 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)	—			
	USB	Type A,Type mini-B(Ver.2.0)				
	Sound output	1 ch 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 power is not supplied)				
Standard	CE marking ⁶	EN61000-6-2,EN61000-6-4				
	UL-cUL ⁶	UL508	UL508,ANSI /ISA 12.12.01-2007 ³	UL508	UL508,ANSI /ISA 12.12.01-2007 ³	UL508
	KC	Compliant				
	Radio Act ⁶	Japan: TELEC USA: FCC Canada: IC RSS EU: R&TTE South Korea: KC	—			

*1: Scheduled to be released in Autumn 2014. *2: Keep wet bulb temperature under 39°C to avoid malfunction. *3: Available or complying after release.

*4: For the display of pictures, 3D parts and videos only. Other parts are displayed in 65,536 colors. *5: Available only when connected with SIEMENS MPI/PPi. *6: DC type only.

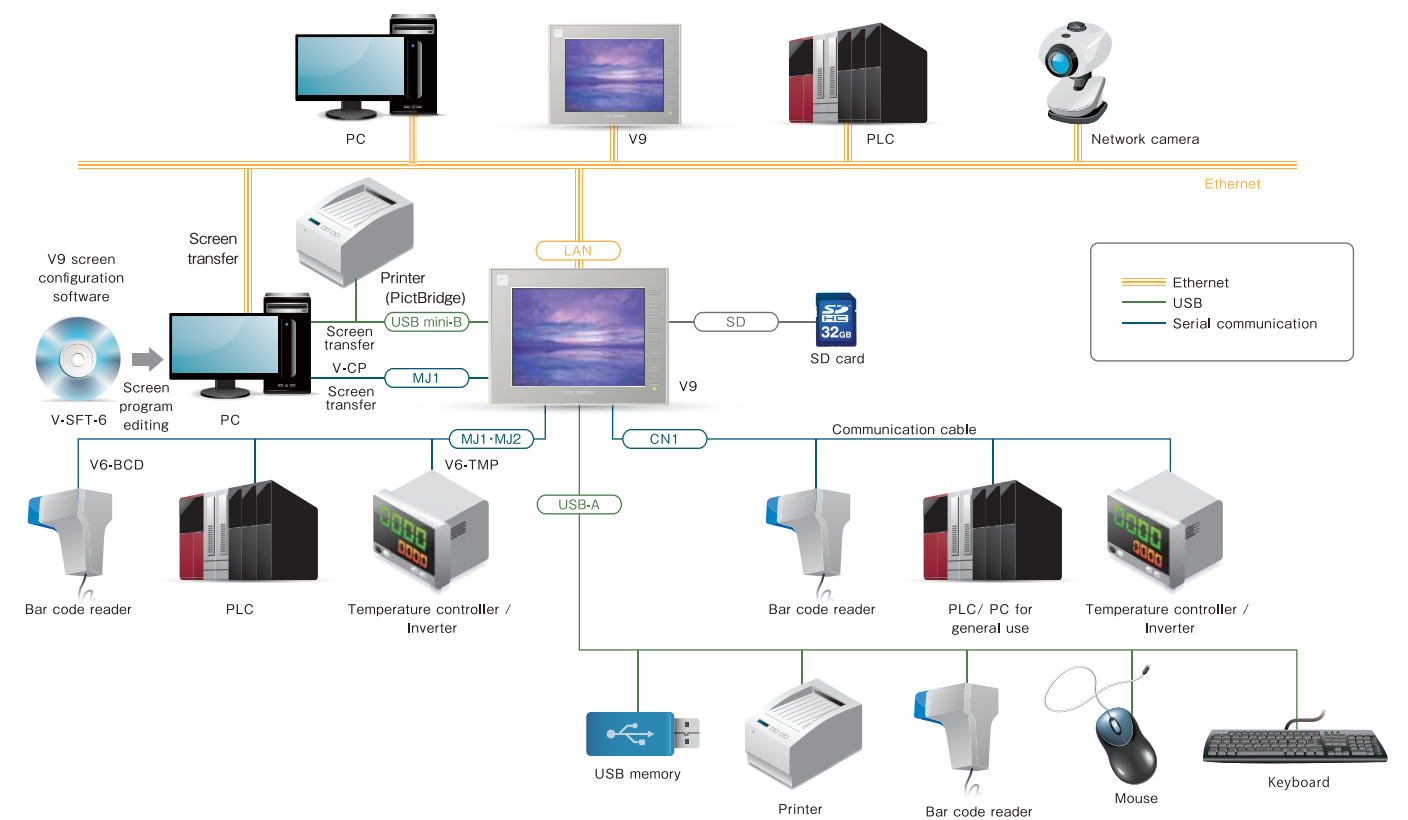
and accurate operation.

Standard Model System Configuration



*1: Optional unit (GUR-xx) (under development) is required.

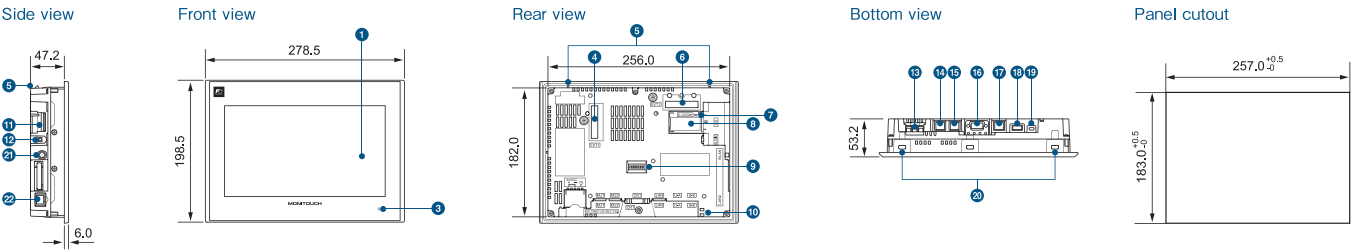
Lite Model System Configuration



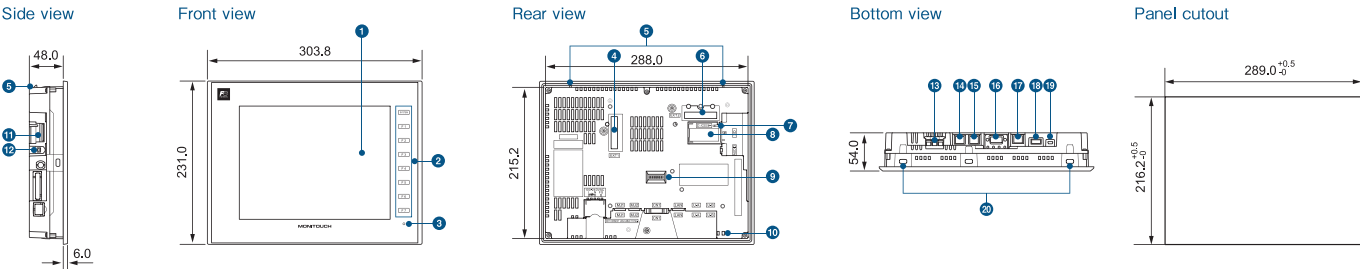
Flexible system configuration meets diversified requirements.

Dimensions and Part Names

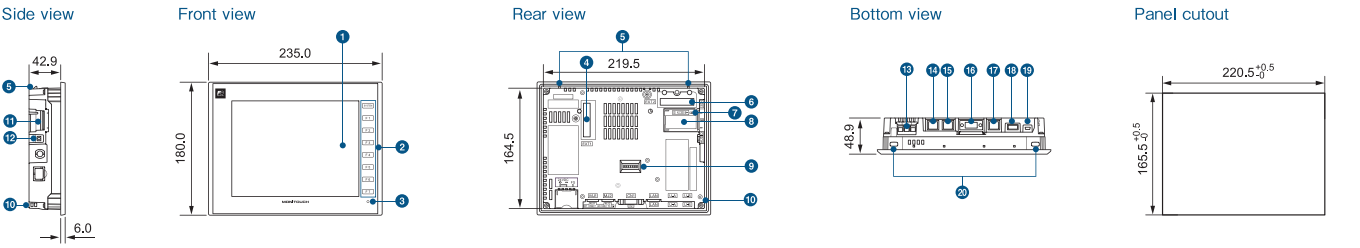
V9101iW (Unit: mm)



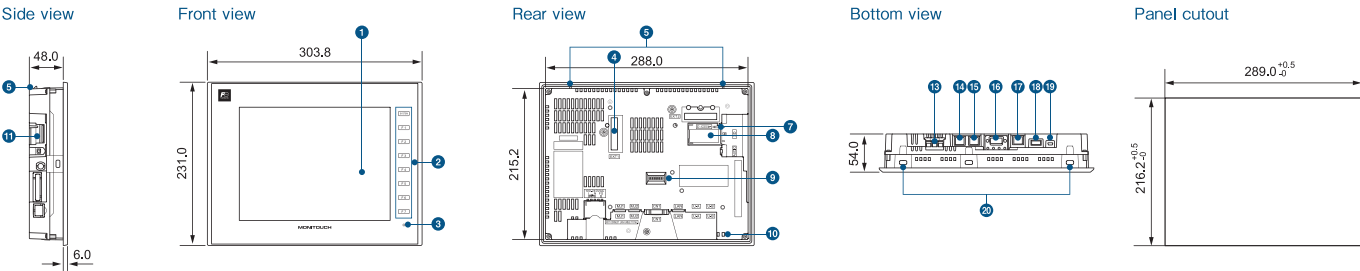
V9100iS (Unit: mm)



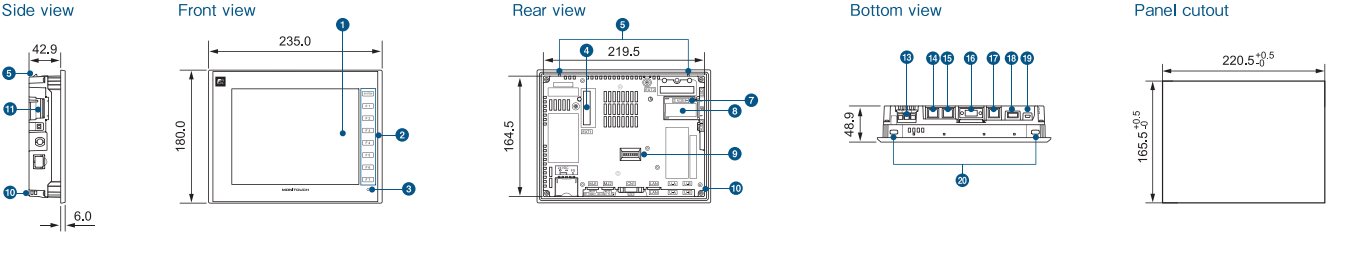
V9080iSD (Unit: mm)



V9100iC (Unit: mm)



V9080iCD (Unit: mm)



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 holder	14 Modular jack 1 (MJ1)	20 Screw hole
3 Power lamp	9 DIP switch	15 Modular jack 2 (MJ2)	21 Wireless LAN antenna connector
4 Communication unit connector (EXT1)	10 USB cable holding hole	16 PLC connector (CN1)	22 100BASE-TX/10BASE-T port (LAN2)
5 Fall prevention hook	11 SD card connector	17 100BASE-TX/10BASE-T port (LAN)	
6 Optional unit connector (EXT2)	12 Sound output connector (AUDIO)	18 USB-A (U-A)	

Optional Units

Extension Units (Under development)

- GUR-00 (Video input 4ch)^{*1}
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 a video camera directly.
- GUR-10 (Video input 2ch + RGB input 1ch)^{*1}
Displays images from video camera and RGB input on V9 simultaneously.
- GUR-11 (RGB input 2ch)^{*1}
Displays RGB images such as PC images through two channels on V9 simultaneously.

*1: To be developed.

Configuration software

V-SFT-6 (Ver.6)
WindowsXP / XP 64Edition / Vista 32bit / Vista 64bit / Win7 32bit / Win7 64bit / Win8 32bit / Win8 64bit

Cables

Type	Configuration	Connected to
V-CP	RS-232C Modular 8pin Length: 3m	PC
V6-BCD	RS-232C Modular 8pin Length: 3m	Bar code reader
V6-MLT	RS-485 Modular 8pin Length: 3m	MONITOUCH V9/V8/V7/V6
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.

Communication Units (Under development)

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

Other Units

- TC-D9 (Terminal converter)
Connects V9 with other units via RS-422/485 terminal.
- V9xxx-WP
Waterproof gasket for V9
See P21 for details.
- D9-D25
Replacement cable for CN1 cable of V6/V7 series.
- V9-BT
A replacement lithium battery for V9 series.
- V9xxx-GS/V9xxx-GSN10
Protection sheets for panels (5 sheets per set). N10 is a non-glare type sheet. See P21 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.
- V9-ANT
Antenna for V9 models compatible with wireless LAN.

Remarkable cost effectiveness enabled by

our product lineup and optional units.

Product List

Advanced

Model	Display Size	Resolution	Touch Switch	Communication Network	Video RGB	AUDIO Output	Wireless LAN	Extended Cable LAN	Power	Remarks
V9101iWRLD	10.1" Wide	1024×600	Capacitance	○	○	○	○	○	DC	Under development
V9101iWLD	10.1" Wide	1024×600	Capacitance	○	○	○	—	○	DC	Under development
V9071iWRD	7" Wide	800×480	Capacitance	○	—	—	○	—	DC	Under development
V9071iWLD	7" Wide	800×480	Capacitance	○	—	—	—	○	DC	Under development

Standard

Model	Display Size	Resolution	Touch Switch	Communication Network	Video RGB	AUDIO Output	Wireless LAN	Extended Cable LAN	Power	Remarks
V9150iX	15"	1024×768	Analog resistance film	○	○	○	—	—	AC	Under development
V9150iXD	15"	1024×768	Analog resistance film	○	○	○	—	—	DC	Under development
V9120iS	12.1"	800×600	Analog resistance film	○	○	○	—	—	AC	Under development
V9120iSD	12.1"	800×600	Analog resistance film	○	○	○	—	—	DC	Under development
V9100iS	10.4"	800×600	Analog resistance film	○	○	○	—	—	AC	May 2014
V9100iSD	10.4"	800×600	Analog resistance film	○	○	○	—	—	DC	May 2014
V9080iSD	8.4"	800×600	Analog resistance film	○	○	○	—	—	DC	May 2014

Lite

Model	Display Size	Resolution	Touch Switch	Communication Network	Video RGB	AUDIO Output	Wireless LAN	Extended Cable LAN	Power	Remarks
V9100iC	10.4"	640×480	Analog resistance film	○	—	—	—	—	AC	May 2014
V9100iCD	10.4"	640×480	Analog resistance film	○	—	—	—	—	DC	May 2014
V9080iCD	8.4"	640×480	Analog resistance film	○	—	—	—	—	DC	May 2014
V9060iTD	5.7"	640×480	Analog resistance film	○	—	—	—	—	DC	Under development

Optional Unit List

Type	Product	Compatible Model					Remarks
		Advanced	Standard		Lite		
		V9101iW	V9100iS	V9080iS	V9100iC	V9080iC	
Configuration Software							
V-SFT-6	V9 configuration software Ver.6 (Manual not included)	○	○	○	○	○	
Extension Units							
GUR-00	Video 4ch input	○	○	○			Scheduled
GUR-01	RGB 1ch input	○	○	○			Under development
GUR-02	RGB 1ch output	○	○	○			Under development
GUR-04	Video 1ch input	○	○	○			Under development
GUR-10	Video 2ch input/ RGB 1ch input	○	○	○			Scheduled
GUR-11	RGB 2ch input	○	○	○			Scheduled
Communication Units							
CUR-00	OPCN-1	○	○	○	○	○	Under development
CUR-01	T-link	○	○	○	○	○	To be released in July 2014
CUR-02	CC-Link	○	○	○	○	○	Under development
CUR-03	Ethernet	○	○	○	○	○	Under development
CUR-04	PROFIBUS-DP	○	○	○	○	○	Under development
CUR-06	SX bus	○	○	○	○	○	To be released in July 2014
CUR-07	DeviceNet	○	○	○	○	○	Under development
CUR-08	FL-net	○	○	○	○	○	Under development
Cables							
V-CP	Screen transfer cable (3m)	○	○	○	○	○	
UA-FR	USB-A cable (1m)	○	○	○	○	○	
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	Bar code reader cable (3m)	○	○	○	○	○	
D9-MB-CPUQ-2M	MITSUBISHI ELECTRIC A series / QnA series CPU (Dsub 25) RS422	○	○	○	○	○	
D9-MB-CPUQ-3M		○	○	○	○	○	
D9-MB-CPUQ-5M		○	○	○	○	○	
D9-MB-CPUQ-10M		○	○	○	○	○	
D9-MB-CPUQ-15M		○	○	○	○	○	
D9-QCPU2-2M	MITSUBISHI ELECTRIC Q series CPU (Mini DIN 6) RS-232C	○	○	○	○	○	
D9-QCPU2-3M		○	○	○	○	○	
D9-QCPU2-5M		○	○	○	○	○	
D9-QCPU2-10M		○	○	○	○	○	
D9-QCPU2-15M		○	○	○	○	○	
D9-MI2-09-2M	MITSUBISHI ELECTRIC link unit (Dsub9) RS-232C	○	○	○	○	○	
D9-MI2-09-3M		○	○	○	○	○	
D9-MI2-09-5M		○	○	○	○	○	
D9-MI2-09-10M		○	○	○	○	○	
D9-MI2-09-15M		○	○	○	○	○	
D9-MI4-FX-2M	MITSUBISHI ELECTRIC FX series CPU (Mini DIN8) RS-422	○	○	○	○	○	
D9-MI4-FX-3M		○	○	○	○	○	
D9-MI4-FX-5M		○	○	○	○	○	
D9-MI4-FX-10M		○	○	○	○	○	
D9-MI4-FX-15M		○	○	○	○	○	
D9-FU-SPHCPU-2M	FUJI ELECTRIC SPH CPU RS-485 (4-wire)	○	○	○	○	○	
D9-FU-SPHCPU-3M		○	○	○	○	○	
D9-FU-SPHCPU-5M		○	○	○	○	○	
D9-FU-SPBCPU-2M	FUJI ELECTRIC SPH CPU RS-485 (4-wire)	○	○	○	○	○	
D9-FU-SPBCPU-3M		○	○	○	○	○	
D9-FU-SPBCPU-5M		○	○	○	○	○	
D9-D25	Dsub9-Dsub25 conversion cable (0.3m)	○	○	○	○	○	
Communication Terminal Block							
TC-D9	Terminal converter for V9/V8	○	○	○	○	○	
Battery							
V9-BT	Replacement battery for V9	○	○	○	○	○	
Wireless LAN Antenna							
V9-ANT	V9 external antenna with cable (3m)	○					
Protection Sheets							
V910S-GS	V9100iS/V9100iC protection sheets		○		○		
V910S-GSN10	V9100iS/V9100iC protection sheets (Non-glare)		○		○		
V908S-GS	V9080iS/V9080iC protection sheets			○		○	
V908S-GSN10	V9080iS/V9080iC protection sheets (Non-glare)			○		○	
Waterproof Gasket							
V910W-WP	V9101iW waterproof gasket	○					
V910S-WP	V9100iS/V9100iC waterproof gasket		○		○		
V908S-WP	V9080iS/V9080iC waterproof gasket			○		○	

V8 Series – scaling new heights in performance, usability and connectivity.

MONITOUCH V8series

Provided with revolutionary features for production sites such as 8-way communication and 16-million-color high-resolution video display, the V8 series has expanded the potential of programmable operator interface panels. The screen programs and panels of the V7 series are also compatible with the V8 series.

Product Lineup

High performance model

15.0 inches	12.1 inches	10.4 inches		8.4 inches
				
V815iX	V812iS V812S	V810iS V810S	V810iT V810T	V808iSD V808SD

Standard model

10.4 inches	8.4 inches	7.7 inches	5.7 inches		
					
V810iC V810C	V808iCD V808CD	V808iCHx V808CHx	V806iTD V806TD	V806iCD V806CD	V806iMD V806MD

V8 Model

V8□□□□□□

- Display size**
15: 15 inches
12: 12.1 inches
10: 10.4 inches
08: 8.4 inches
06: 5.7 inches
- Display device**
X: TFT color LCD (XGA)
S: TFT color LCD (SVGA)
T: TFT color LCD (VGA)*1
C: TFT color LCD (VGA)*1
M: TFT monochrome LCD (QVGA)
- Power supply**
N/A: 100-240V AC
D: 24V DC
- Touch switch**
N/A: Analog resistive
D: Matrix resistive
- Interface**
N/A: Without a built-in LAN port / An optional port is not available.
i: With a built-in LAN port / An optional port is available.*2

*1 QVGA for V806.
*2 No optional port for V810iC, V808iC or V806i.

V808CH Model

V808□CH□□

- Interface**
N/A: Without a built-in LAN port
D: With a built-in LAN port
- | | Key switch | Deadman switch | |
|---|-------------|-----------------|------------|
| | Switch type | External output | |
| 0 | Unequipped | Momentary | Unequipped |
| 1 | Equipped | Momentary | Unequipped |
| 2 | Unequipped | 3-position | 1 contact |
| 3 | Equipped | 3-position | 1 contact |
| 4 | Unequipped | 3-position | 2 contacts |

Specifications

	Item	V815iX	V812iS	V812S	V810iS	V810S	V810iT	V810T	V810iC	V810C	V808iSD	V808SD	V808iCD	V808CD
Basic specification	Display size	15 inches	12.1 inches		10.4 inches						8.4 inches			
	Display device	TFT color LCD												
	Resolution W:H (dots)	1024×768	800×600				640×480				800×600		640×480	
	Colors	65,536 colors (without blinks) / 32,768 colors (with blinks)												
	Screen memory	FROM (12.5MB)								FROM (4.5MB)	FROM (12.5MB)			FROM (4.5MB)
	Backup memory	SRAM (512KB)								SRAM (128KB)	SRAM (512KB)			SRAM (128KB)
Interface	D-Sub 9-pin CN1	RS-232C, RS-422/485, 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 ^{*)} bps												
	Modular 8-pin MJ1/MJ2	RS-232C, RS-422/485 (two-wire system), Asynchronous, Data length: 7.8 bits, Parity: even, odd, none, Stop bit: 1.2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200 bps												
	Ethernet	100BASE-TX/10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	
	Communication I/F	Equipped												
	Expansion I/F	Equipped	—	Equipped	—	Equipped	—			Equipped	—			
	CF card I/F	Equipped												
Options	USB I/F	Type A and B(Ver1.1)												
	Video (4ch)	GU-00	—	GU-00	—	GU-00	—			GU-00	—			
	RGB input	GU-01	—	GU-01	—	GU-01	—			GU-01	—			
	RGB output	GU-02	—	GU-02	—	GU-02	—			GU-02	—			
	Video (2ch)+RGB input	GU-10	—	GU-10	—	GU-10	—			GU-10	—			
	RGB input (2ch)	GU-11	—	GU-11	—	GU-11	—			GU-11	—			
Compatibility	Sound output	GU-00~03	—	GU-00~03	—	GU-00~03	—			GU-00~03	—			
	Communication unit	CU-00,CU-01,CU-02-2,CU-03-3,CU-04,CU-06,CU-07,CU-08												
	I/O unit	V-I/O												
	CE Marking ^{*)2}	EN61000-6-2,EN61000-6-4												
	UL•cUL ^{*)2}	UL508	UL508/UL1604 ^{*)4}											
	Marine Standards ^{*)2-3)}	NK,LR,DNV,ABS,BV,CCS,GL	NK,BV,CCS,GL		NK,LR,DNV,ABS,BV,CCS,GL				—		NK,LR,DNV,ABS,BV,CCS,GL		—	
	RoHS directive	Complied												

	Item	V806iTD	V806TD	V806iCD	V806CD	V806iMD	V806MD
Basic specification	Display size	5.7 inches					
	Display device	TFT color LCD				TFT monochrome LCD	
	Resolution W/H (dots)	320×240					
	Colors	65,536 colors(without blinks) 32,768 colors(with blinks)				16 grayscale(with blinks)	
	Screen memory	FROM (4.5MB)					
Backup memory	SRAM (512KB)	SRAM (128KB)	SRAM (512KB)	SRAM (128KB)	SRAM (512KB)	SRAM (128KB)	
Interface	D-Sub 9-pin CN1*5	RS-232C, RS-422/485, Asynchronous, Data length: 7.8 bits, Parity: even, odd, none, Stop bit: 1.2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200 bps Modular 8-pin (MJ1/ MJ2)*6					
	Modular 8-pin MJ1/MJ2*5	RS-232C, RS-422/485 (two-wire system), 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*5 bps					
	Ethernet	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)
Options	Communication I/F	Equipped					
	Extension I/F	—					
	CF card I/F	Equipped*6					
	USB I/F	Type A and B(Ver1.1)					
	Video (4ch)	—					
	RGB input	—					
	RGB output	—					
	Video (2ch)+RGB input	—					
	RGB input (2ch)	—					
	Sound output	—					
Compatibility	Communication unit	CU-00,CU-01,CU-02-2,CU-03-3,CU-04,CU-06,CU-07,CU-08					
	I/O unit	V-I/O					
	CE Marking	EN61000-6-2,EN61000-6-4					
	UL·cUL	UL508/UL1604*4					
	Marine Standards*3	NK,LR,DNV,ABS,BV,CCS,GL					
	RoHS directive	Complied					

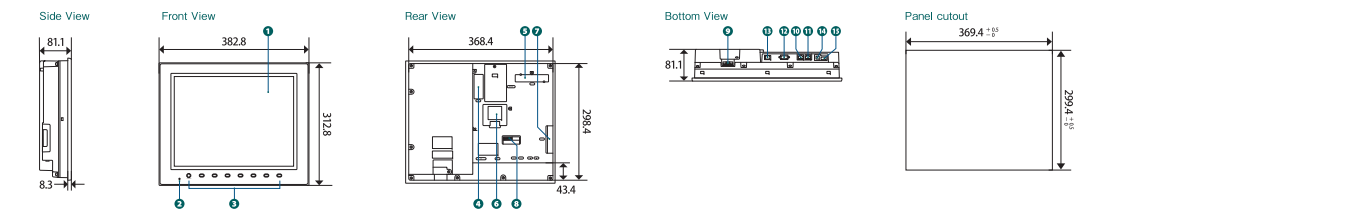
Item	V808iCHx	V808CHx
Display size	7.5 inches	
Display device	TFT color LCD	
Resolution W:H (dots)	640×480	
Colors	65,536 colors (without blinks) / 32,768 colors (with blinks)	
Screen memory	FROM (12.5MB)	FROM (4.5MB)
Backup memory	SRAM (512KB)	SRAM (128KB)
TB2	RS-232C, Asynchronous, Data length: 7.8 bits, Parity: even, odd, none, Stop bit: 1.2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200 bps	
TB3	RS-422/485, 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** bps	
Ethernet	100BASE-TX /10BASE-T	Not equipped
CF card I/F	Equipped	
USB/I/F	Type B (Ver1.1)	
No. of switches	12 (4: For external output)	
Switch type	Membrane switch	
Mechanical life	One million times or more	
Switch type	Push lock type (b-contact, 2 circuits)	
Mechanical life	100,000 times or more	
Rated voltage	24V DC	
Rated current	1A (load resistance)	
Contact point	a-contact, 1 circuit	
Mechanical life	250,000 times or more	
Electrical life	100,000 times or more (Switching frequency: 1,200 times/h)	
3-position	Switch type	3-position output (a-contact, 2 circuits**)
	Mechanical life	Off→On: One million times or more, OFF→ON→OFF(direct circuit): 100 thousand times
	Rated voltage	24V DC
Momentary	Rated current	1A (load resistance)
	Switch type	Momentary switch
	Momentary switch	One million times or more
CE Marking	EN61000-6-2,EN61000-6-4	
UL•cUL	UL508*7	
RoHS directive	Complied	

*1: Only when connected with SIEMENS MPI/PPI. *2: Only with 24V DC models. *3: Please contact us for a unit that complies with the marine standards.
*4: Please contact us for a unit that complies with UL1604. *5: Only when connected with SIEMENS MPI/PPI (MJ2 only). Not available for D-Sub9 pin (option).
*6: Only when equipped with DU-10 (option). *7: Please contact our sales department for a unit that complies with UL508. *8: MJ2 is compatible with RS-422 (4-wire).
*9: a-contact: 2 circuits for CH4 and 1 circuit for CH2 and CH3 of V808(i).

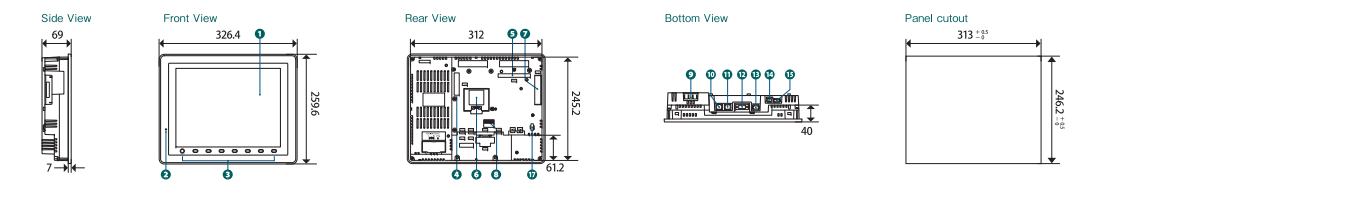
Wide range of products and optional units for expanding performance.

Dimensions and Part Names

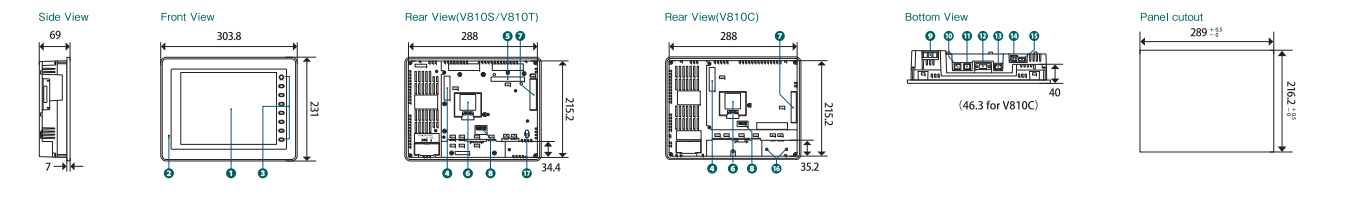
V815iX / V815iXD (Unit:mm)



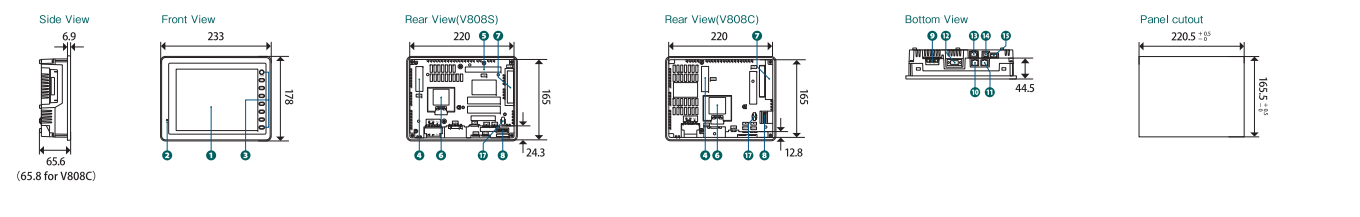
V812iS / V812S (Unit:mm)



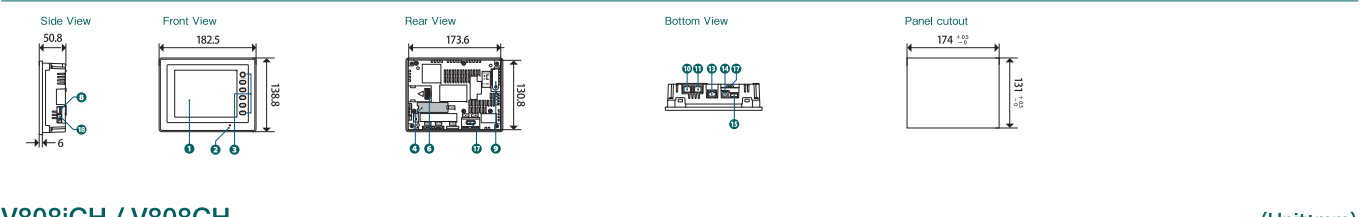
V810iS / V810S / V810iT / V810T / V810iC / V810C (Unit:mm)



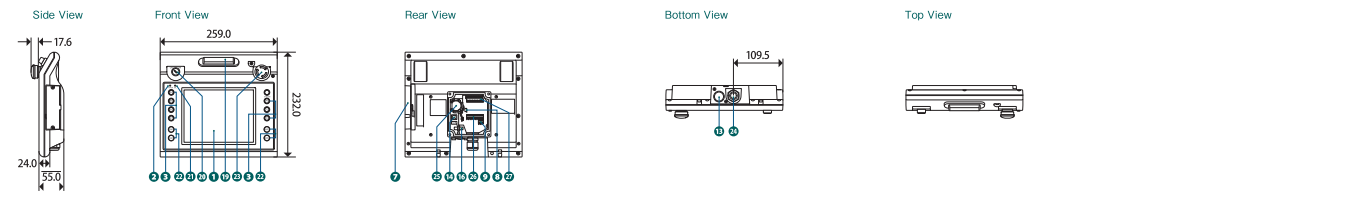
V808iS / V808S / V808iC / V808C (Unit:mm)



V806iT / V806T / V806iC / V806C / V806iM / V806M (Unit:mm)



V808iCH / V808CH (Unit:mm)



- Part Names
- 1 Display
 - 2 Power lamp
 - 3 Function switch
 - 4 Connector for communication unit (CN5)
 - 5 Connector for optional unit (CN7)
 - 6 Battery holder
 - 7 CF card slot (CF)
 - 8 DIP switch
 - 9 Power supply (TB1)
 - 10 Modular 8-pin for serial port (MJ1)
 - 11 Modular 8-pin for serial port (MJ2)
 - 12 D-sub9 pin for serial port (CN1)
 - 13 100BASE-TX/10BASE-T port (LAN)
 - 14 USB-B (U-B)
 - 15 USB-A (U-A)
 - 16 Screw hole for fixing USB cable lock
 - 17 Inlet port for fixing USB cable
 - 18 Slide switch
 - 19 Deadman switch
 - 20 Key switch
 - 21 Operation lamp
 - 22 External output switch
 - 23 Emergency stop switch
 - 24 Cable insertion port
 - 25 Battery
 - 26 Terminal block (TB2)
 - 27 Terminal block (TB3)

Optional Unit List

Type	Product	Compatible Model																					
		V815		V812		V810						V808						V806					
		iX	iS	S	iS	S	IT	T	IC	C	iS	S	IC	C	ICH	CH	IT	T	IC	C	IM	M	
Configuration Software																							
V-SFT-5(CD)	Configuration Software for V8 - V4 series (without the manual) Ver. 5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Communication Units																							
CU-00	OPCN-1	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-01	T-Link	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-02-2	CC-Link	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-03-3	Ethernet	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-04	PROFIBUS-DP	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-06	SX bus	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-07	Device Net	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
CU-08	FL-net Ver.2(OPCN-2)	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	
Optional units																							
GU-00	Video 4ch input/ Sound output	○	○		○		○				○												
GU-01	RGB 1ch input/ Sound output	○	○		○		○				○												
GU-02	RGB 1ch output/audio output	○	○		○						○												
GU-03	Sound output	○	○		○						○												
GU-10	Video 2ch input/ RGB 1ch input	○	○		○						○												
GU-11	RGB 2ch input	○	○		○						○												
DU-10	Option unit for V806 (Dsub9+CF card)				○												○	○	○	○	○	○	
Cables																							
V-CP	Screen program transfer cable (3m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○	○	○	○	○	○	
UA-FR	USB-A panel surface fixing cable (1m)	○	○	○	○	○				○	○	○	○	○	○		○	○	○	○	○	○	
UB-FR	USB-B panel surface fixing cable (1m)	○	○	○	○	○				○	○	○	○	○	○	○	○	○	○	○	○	○	
V6-MLT	Multi-link 2 master cable (3m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○	○	○	○	○	○	
V6-TMP	Temperature controller cable (3.5,10m)	○	○	○	○	○				○	○	○	○	○	○		○	○	○	○	○	○	
MJ-D25	MJ-Dsub25 conversion cable	○	○	○	○	○	○	○		○	○	○	○	○	○		○	○	○	○	○	○	
MJ2-PLC	MJ2-Dsub25 conversion cable for V806/V706	○	○	○	○	○	○	○		○	○	○	○	○	○		○	○	○	○	○	○	
D9-MB-CPUQ	mitsubishi electric A/ QnA series CPU RS-422 (2.3,5,10,15m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-QCPU2	mitsubishi electric Q series CPU RS-232C (2.3,5,10,15m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-MI2-09	mitsubishi electric link unit RS-232C (2.3,5,10,15m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-MI4-FX	mitsubishi electric FX series CPU RS-422 (2.3,5,10,15m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-FU-SPHCPU	FUJII ELECTRIC SPH CPU RS-485 (4-wire) (2,3,5m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-FU-SPBCPU	FUJII ELECTRIC SPB CPU RS-485 (4-wire) (2,3,5m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
V706-ACPU	mitsubishi electric A/ QnA series CPU RS-422 (2,3,5m)																○ ²	○ ²	○ ²	○ ²	○ ²	○ ²	
MJ2-MI4FX	mitsubishi electric FX series CPU RS-422 (2,3,5m)																○	○	○	○	○	○	
MJ2-FU-SPHCPU	FUJII ELECTRIC SPH CPU RS-485 (4-wire) (2,3,5m)																○	○	○	○	○	○	
MJ2-FU-SPBHCPU	FUJII ELECTRIC SPB CPU RS-485 (4-wire)																○	○	○	○	○	○	
V8H-C	External connection cable for V808CH (3,5,15,20m)															○	○						
D9-D25	Dsub9-Dsub25 conversion cable (0,3m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
D9-D15	Dsub9-Dsub15 conversion cable (0,5m)	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
Communication Terminal Block																							
TC-D9	Terminal converter for V8	○	○	○	○	○	○	○		○	○	○	○	○	○		○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	○ ¹	
Card recorder																							
USB-CFREC	USB CF card recorder	○	○	○	○	○	○	○		○	○	○	○	○	○		○	○	○	○	○	○	
Battery																							
V7-BT	Battery for V8, V7, and V606e	○	○	○	○	○	○	○		○	○	○	○	○	○	○	○	○	○	○	○	○	
Switch guard cover																							
V8H-SWG	Switch guard cover for V808CH															○	○						
Wall-hanging clasp																							
V6H-WF	Wall-hanging clasp set (for V808CH/V608CH)															○	○						
V6H-WF1	Wall-hanging bracket (wall side) (for V808CH/V608CH)															○	○						
V8H-WFV	Fitting for V808CH (VESA-compliant)															○	○						
V8H-ST	Stand for V808CH															○	○						
Protection sheet																							
V806-GS	V806 protection sheets																	○	○	○	○	○	
V806-GSN10	V806 protection sheets (Non-glare)																	○	○	○	○	○	
V608CH-GSN10	V808/V806 protection sheets (Non-glare)															○	○						
V808-GS	Surface protection sheets for V808											○	○	○	○								
V808-GSN10	Surface protection sheets for V808 (Non-glare)											○	○	○	○								
V810-GS	Surface protection sheets for V810					○	○	○	○		○	○											
V810-GSN10	Surface protection sheets for V810 (Non-glare)					○	○	○	○		○	○											
V812-GS	Surface protection sheets for V812		○	○																			
V812-GSN10	Surface protection sheets for V812 (Non-glare)		○	○																			
V715-GS	Surface protection sheets for V815/V715	○																					
V715-GSN10	Surface protection sheets for V815/V715(Non-glare)	○																					
Backlight																							
V808C-FL ³	Backlight for V808C series														○	○							
V808S-FL ³	Backlight for V808S series												○	○									
V810-FL ³	Backlight for V810S/T/C series				○	○	○	○		○	○												
V812-FL ³	Backlight for V812S series																						
V715-FL ³	Backlight for V815iX/V715 series	○																					

*1: Optional unit (DU-10) is required.
*2: Used both MJ1/MJ2 ports.
*3: CCFL type (Ver. a-q only).

Worldwide service network for trouble-free operations

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Global Sales Network

Our distributors are ready to support your worldwide business.
<http://monitouch.fujielectric.com/site/distributors-e/distributors-oversea-01.html>



To the purchasers of Hakko Electronics products:

The warranty of this product is as follows, unless there are special instructions that state otherwise in the quote, contract, catalog, or specifications at the time of the quote or order.
The purpose or area of use may be limited, and a routine checkup may be required depending on the product. Please contact the distributor from which you purchased the product, or Hakko Electronics for further information.
Please conduct inspection of the product promptly upon purchase or delivery. Also, please give sufficient consideration to management and maintenance of the product prior to accepting it.

1 Period and Coverage of the Warranty

1-1 Period

- (1) The period of the warranty is effective until twenty-four (24) months from the date of manufacture printed on the plate.
- (2) The above period may not be applicable if the particular environment, conditions or frequency of use affects the lifetime of the product.
- (3) The warranty for the parts repaired by Hakko Electronics' service department is effective for six (6) months from the date of repair.

1-2 Coverage

- (1) If malfunction occurs during the period of warranty due to negligence on the part of Hakko Electronics, the malfunctioning parts are exchanged or repaired free of charge at the point of purchase or delivery. However, the warranty does not apply to the following cases:
 - 1) The malfunction occurs due to inappropriate conditions, environment, handling or usage that is not specified in the catalog, instruction book or users' manual.
 - 2) The malfunction is caused by factors that do not originate in the purchased or delivered product.
 - 3) The malfunction is caused by another device or software design that does not originate in a Hakko Electronics product.
 - 4) The malfunction occurs due to an alteration or repair that was not performed by Hakko Electronics.
 - 5) The malfunction occurs because the expendable parts listed in the instruction book or catalog were not maintained or replaced in an appropriate manner.
 - 6) The malfunction occurs due to factors that were not foreseeable by the practical application of science and technology at the time of purchase or delivery.
 - 7) The malfunction occurs because the product is used for a purpose other than that for which it is intended.
 - 8) The malfunction occurs due to a disaster or natural disaster that Hakko Electronics is not responsible for.
- (2) The warranty is only applicable to the single purchased and delivered product.
- (3) The warranty is only valid for the conditions stated in (1) above. Any damage induced by the malfunction of the purchased or delivered product, including damage or loss to a device or machine and passive damage, is not covered by the warranty.

1-3 Malfunction Diagnosis

The initial diagnosis of malfunction is to be made by the purchaser. The diagnosis can be conducted by Hakko Electronics or its delegated service provider with due charge upon the request of the purchaser. The charge is to be paid by the purchaser at the rate stipulated in the rate schedule of Hakko Electronics.

2 Liability for Opportunity Loss

Regardless of the time of occurrence, Hakko Electronics is not liable for damage caused by factors that Hakko Electronics is not responsible for, opportunity loss on the part of the purchaser caused by the malfunction of a Hakko Electronics product, passive damage, damage due to a special situation regardless of whether it was foreseeable or not, or secondary damage, accident compensation, damage to products that were not manufactured by Hakko Electronics, or compensation towards other operations.

3 Period for Repair and Provision of Spare Parts after Production is Discontinued (Maintenance Period)

Discontinued models (products) can be repaired for seven (7) years from the date of discontinuation. Also, most spare parts used for repair are provided for seven (7) years from the date of discontinuation. However, some electric parts may not be available due to their short life cycle. In this case, it may be difficult to repair or provide the parts during the seven-year period. Please contact Hakko Electronics or its service providers for further information.

4 Delivery

Standard products that do not entail application setting or adjustment are regarded as received by the purchaser upon delivery. Hakko Electronics is not responsible for local adjustments and test runs.

5 Service

The price of the delivered or purchased products does not include the service fee for the technician. Please contact Hakko Electronics or its service providers for further information.

6 Scope of Application

The above contents shall be assumed to apply to transactions and product use in the country where a Hakko Electronics product is purchased. Please consult your local supplier or Hakko Electronics for details.