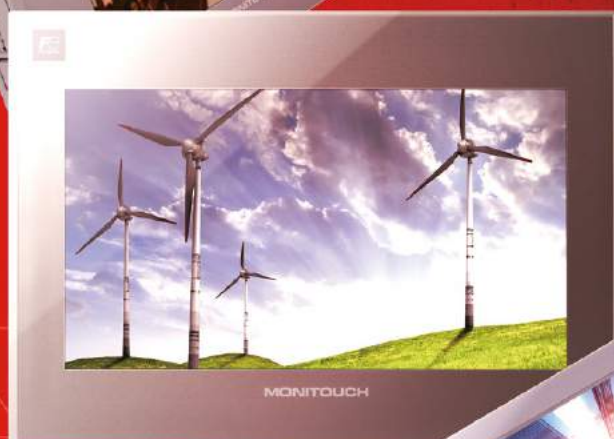


April 2018

Programmable Operator Interface

# MONITOUCH

**V9 series**  
V9 makes automation complete.



*short form  
catalogue*

**Hakko Electronics Co., Ltd.**

[www.monitouch.com](http://www.monitouch.com)

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

### V9 Advanced

### V9 Standard

#### 10.1 inches

- V9101iWRLD
- V9101iWLD
- V9100iWRLD
- V9100iWLD

#### 7 inches

- V9071iWRLD
- V9071iWLD
- V9070iWRLD
- V9070iWLD

#### 15 inches

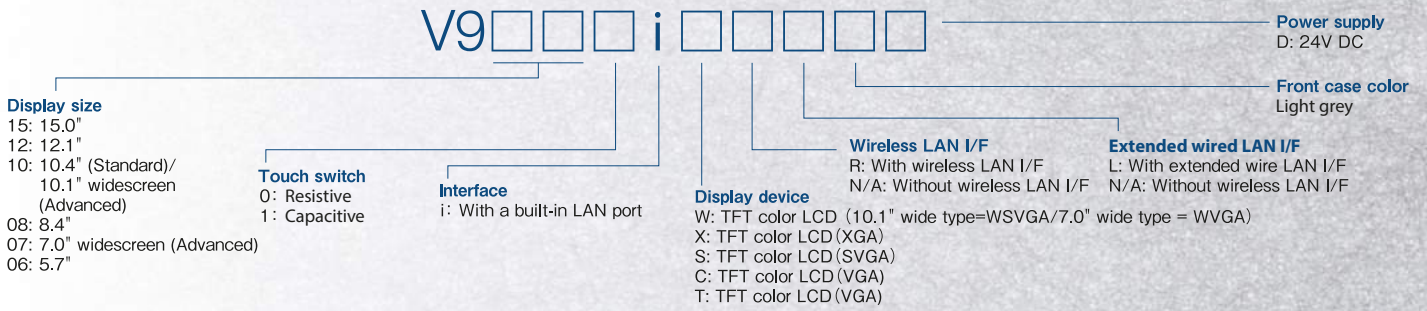
- V9150iXLD
- V9150iXD

#### 12.1 inches

- V9120iSLD
- V9120iSD



<b>Display size</b>	10.1" wide	7" wide	15"	12.1"
<b>Display device</b>	TFT color LCD	TFT color LCD	TFT color LCD	TFT color LCD
<b>Resolution W:H (dots)</b>	1024 x 600	800 x 480	1024 x 768	800 x 600
<b>Colors</b>	16.7 million <sup>1</sup>	16.7 million <sup>1</sup>	16.7 million <sup>1</sup>	16.7 million <sup>1</sup>
<b>Touch switch</b>	Resistive / Capacitive <sup>2</sup>	Resistive / Capacitive <sup>2</sup>	Resistive	Resistive
<b>Screen memory (FROM)</b>	64 MB	64 MB	64 MB	64 MB
<b>Backup memory (SRAM)</b>	800 KB	800 KB	800 KB	800 KB
<b>Ethernet (LAN) ports</b>	2	2	1 / 2 <sup>3</sup>	1 / 2 <sup>3</sup>
<b>Wireless LAN</b>	Yes <sup>4</sup>	Yes <sup>4</sup>	-	-
<b>Serial (CN1)</b>	RS-232C / 422 / 485	RS-232C / 422 / 485 <sup>5</sup>	RS-232C / 422 / 485	RS-232C / 422 / 485
<b>Serial (MJ1)</b>	RS-232C / 485	RS-232C / 485	RS-232C / 485	RS-232C / 485
<b>Serial (MJ2)</b>	RS-232C / 485	RS-232C / 422 / 485	RS-232C / 485	RS-232C / 485
<b>Communication I/F</b>	Yes	Yes	Yes	Yes
<b>Optional unit I/F (GUR-XX)</b>	Yes	-	Yes	Yes
<b>SD card I/F</b>	Yes	Yes	Yes	Yes
<b>USB type A and mini-B</b>	Yes	Yes	Yes	Yes
<b>VPN</b>	Yes <sup>6</sup>	Yes <sup>6</sup>	Yes <sup>6</sup>	Yes <sup>6</sup>
<b>Sound output</b>	Yes	-	Yes	Yes



## V9 Lite

### 10.4 inches

- V9100iSLD
- V9100iSD

### 8.4 inches

- V9080iSLD
- V9080iSD

### 10.4 inches

- V9100iCD

### 8.4 inches

- V9080iCD

### 5.7 inches

- V9060iT



10.4"	8.4"	10.4"	8.4"	5.7"
TFT color LCD	TFT color LCD	TFT color LCD	TFT color LCD	TFT color LCD
800 x 600	800 x 600	640 x 480	640 x 480	640 x 480
16.7 million <sup>1</sup>	16.7 million <sup>1</sup>	16.7 million <sup>1</sup>	16.7 million <sup>1</sup>	260 thousand <sup>1</sup>
Resistive	Resistive	Resistive	Resistive	Resistive
64 MB	64 MB	64 MB	64 MB	64 MB
800 KB	800 KB	800 KB	800 KB	800 KB
1 / 2 <sup>3</sup>	1 / 2 <sup>3</sup>	1	1	1
-	-	-	-	-
RS-232C / 422 / 485	RS-232C / 422 / 485	RS-232C / 422 / 485	RS-232C / 422 / 485	RS-232C / 422 / 485 <sup>5</sup>
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
Yes	Yes	Yes	Yes	Yes
Yes	Yes	-	-	-
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
Yes <sup>6</sup>	Yes <sup>6</sup>	Yes <sup>6</sup>	Yes <sup>6</sup>	Yes <sup>6</sup>
Yes	Yes	-	-	-

1: Only for pictures, 3D parts and videos. Other items are displayed in 65,536 colors.

2: Depending on the model.

3: Models with "L" have 2 LAN ports.

4: Models with "R" have wireless LAN.

5: When optional unit DUR-00 is installed.

6: VPN (built-in router, licence needed).

# V9 Main Features

## Zooming in and out with two fingers V9 Advanced

The displayed image can be magnified up to 200% by pinching out the screen<sup>1</sup>, and reduced to the original size by pinching it in.



Pinch in

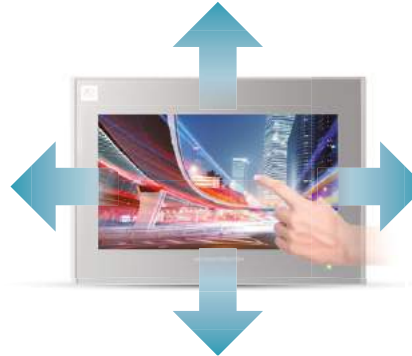


Pinch out

**Zoom up to 200%**

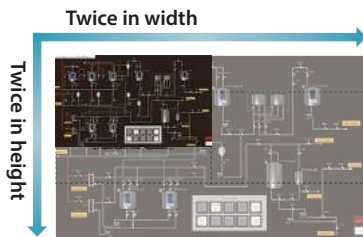
1: The image can be scaled up and down by double tapping for V9 Standard/Lite.

## Scrolling magnified images



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

## Displaying four times the screen size First in industry<sup>2</sup>



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.

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



4 times in width



**Information max. 4 times**

2: According to our own research.

## PDF viewer function

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

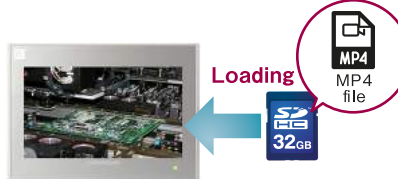


Fast navigation to the desired page, using bookmarks.

## Video player function

A video player function is provided with all models of the V9 series. The video player can be operated by

a switch on the V9 or a command from the system menu or PLC.



Animated images used for operation instruction and other operations will reduce the down time of machines and facilitate the standardization of operation.

## Compatible with vertical placement

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



Examples:

V9101iW



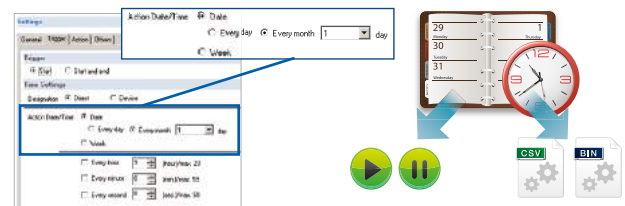
V9100iS

**For all models**

Main menu screen can also be displayed vertically.

## 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.

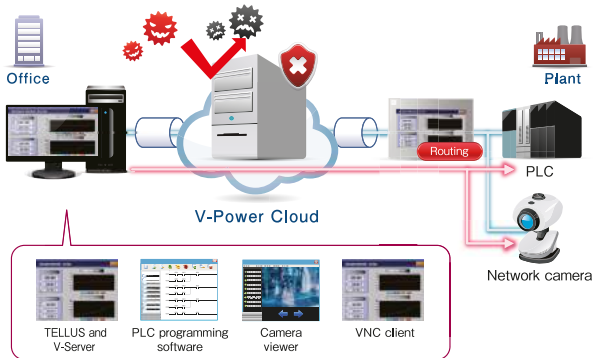


Logging start / stop

Backup file

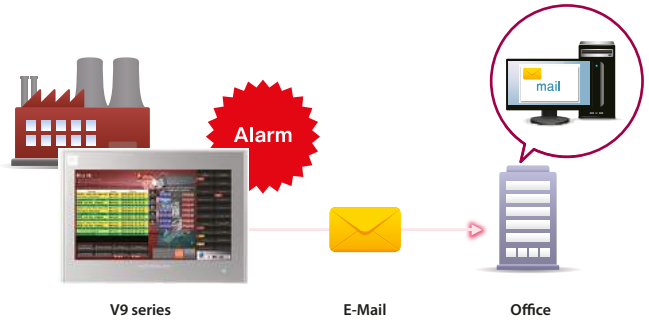
## Secure, easy and low cost remote control by VPN

MONITOUCH, equipped with VPN (Virtual Private Network) function, facilitates secure remote control through a public network. In addition, VPN's routing function enables a V9 series unit to connect with PLC and network cameras via Ethernet.



## E-Mail transmission function

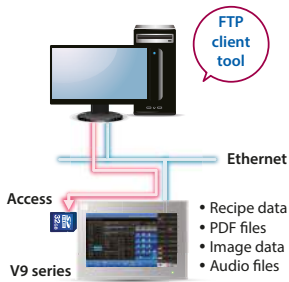
E-Mails can be sent to preset addresses when alarms are issued or lifted. Addresses can be set for each type of alarm.



## FTP server / client support

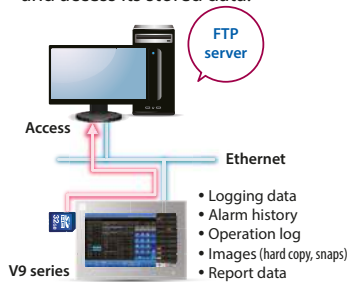
### FTP server function

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 a V9. It is also possible to use a V9 as an FTP server and access its stored data.

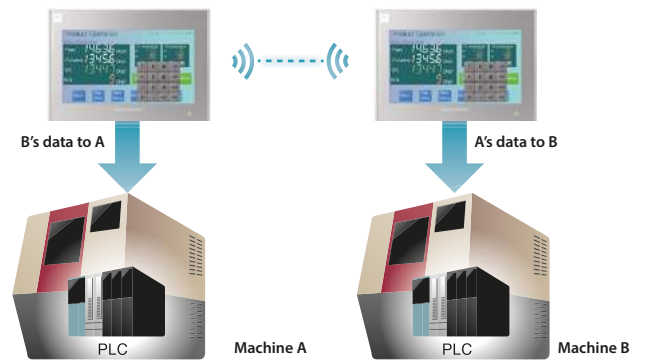


## Wireless LAN

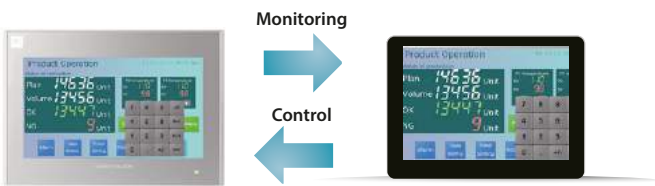
Wireless LAN models have built-in access points so that you can establish connection with wireless LAN devices without setting up extra access points.



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



## VNC server



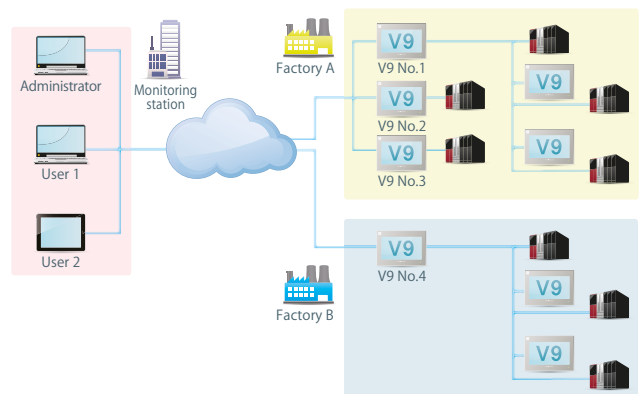
All of the V9 family has remote monitoring/maintenance capabilities via Ethernet, thanks to its VNC feature.

## IoT ready



The V9 series is the perfect industry partner in the era of the Industrial Internet of Things (IIoT). With a V9 panel it is easy to build a system where multiple devices share a graphical touch screen, as their gateway to the cloud, which in turn is accessible by anyone at everywhere. This is a new concept which adds value by reducing the number of devices required in the application.

## IoT ready



## General Specifications

Item		V9 Advanced		V9 Standard	
		V9101iWRLD / V9101iWLD V9100iWRLD / V9100iWLD	V9071iWRLD / V9071iWLD V9070iWRLD / V9070iWLD	V9150iXLD V9150iXD	V9120iSLD V9120iSD
Power Supply	Rated voltage	24 VDC			
	Permissible range of voltage	± 10%			
	Permissible momentary power failure	Within 1 ms			
	Power consumption (max. rating)	27 W or less	22 W or less	40 W or less	28 W or less
	Rush current	17 A or less, 6 ms	10 A or less, 6 ms	19 A or less, 7 ms	18 A or less, 5 ms
Insulation resistance		DC 500 V 10 MΩ or more			
Physical environment	Ambient temperature	0~50° C <sup>1</sup>		0~40° C <sup>1</sup>	0~50° C <sup>1</sup>
	Ambient humidity	85% RH or less (without dew condensation) <sup>1</sup>			
	Operation altitude	2,000 m or lower			
	Atmosphere	Not to be exposed to corrosive gas or conductive gas			
	Storage temperature	-10~60° C <sup>1</sup>		-10~50° C <sup>1</sup>	-10~60° C <sup>1</sup>
	Storage humidity	85% RH or less (without dew condensation) <sup>1</sup>			
	Contamination level	Level 2			
Mechanical operating conditions	Resistance to oscillation	JIS B 3502 (IEC61131-2) compliant, vibration frequency: 5~9 Hz, half-amplitude: 3.5 mm, vibration frequency: 9~150 Hz, constant acceleration: 9.8 m/s <sup>2</sup> (1G), X, Y, Z: 3 directions (10 times each)			
	Resistance to shock	JIS B 3502 (IEC61131-2) compliant, peak acceleration: 147 m/s <sup>2</sup> (15G), X, Y, Z: 3 directions, 3 times each (18 times in total)			
Electric operating conditions	Resistance to noise	Noise voltage: 1.000 Vp-p, pulse width: 1 μs, pulse rise time: 1 ns		Noise voltage: 1.500 Vp-p, pulse width: 1 μs, pulse rise time: 1 ns	
	Resistance to static discharge	Complies with IEC61000-4-2, contact: 6 KV, air: 8 KV			
Installation conditions	Grounding	Grounding resistance: <100 Ω, FG/SG separation		Grounding resistance: <100 Ω, FG=SG	Grounding resistance: <100 Ω, FG/SG separation
	Structure	Protection structure: front case: IP66, TYPE4X/13 <sup>7</sup> (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 x 198.5 x 54.4	201.6 x 147.6 x 60.3	382.8 x 312.8 x 80.8	327.8 x 261 x 54.9
	Panel cutout (mm)	257 x 183 (+0.5/-0)	187.2 x 133.4 (+0.5/-0)	369.4 x 299.4 (+0.5/-0)	313 x 246.2 (+0.5/-0)
	Weight	Approx. 1.7 kg	Approx. 1.0 kg	Approx. 4.7 kg	Approx. 2.5 kg
Case color	Light grey		Front case: silver, rear case: light grey	Light grey (black front housing for black model)	
Material	PC resin		Front case: aluminium, rear case: PC resin	PC resin	

## Performance Specifications

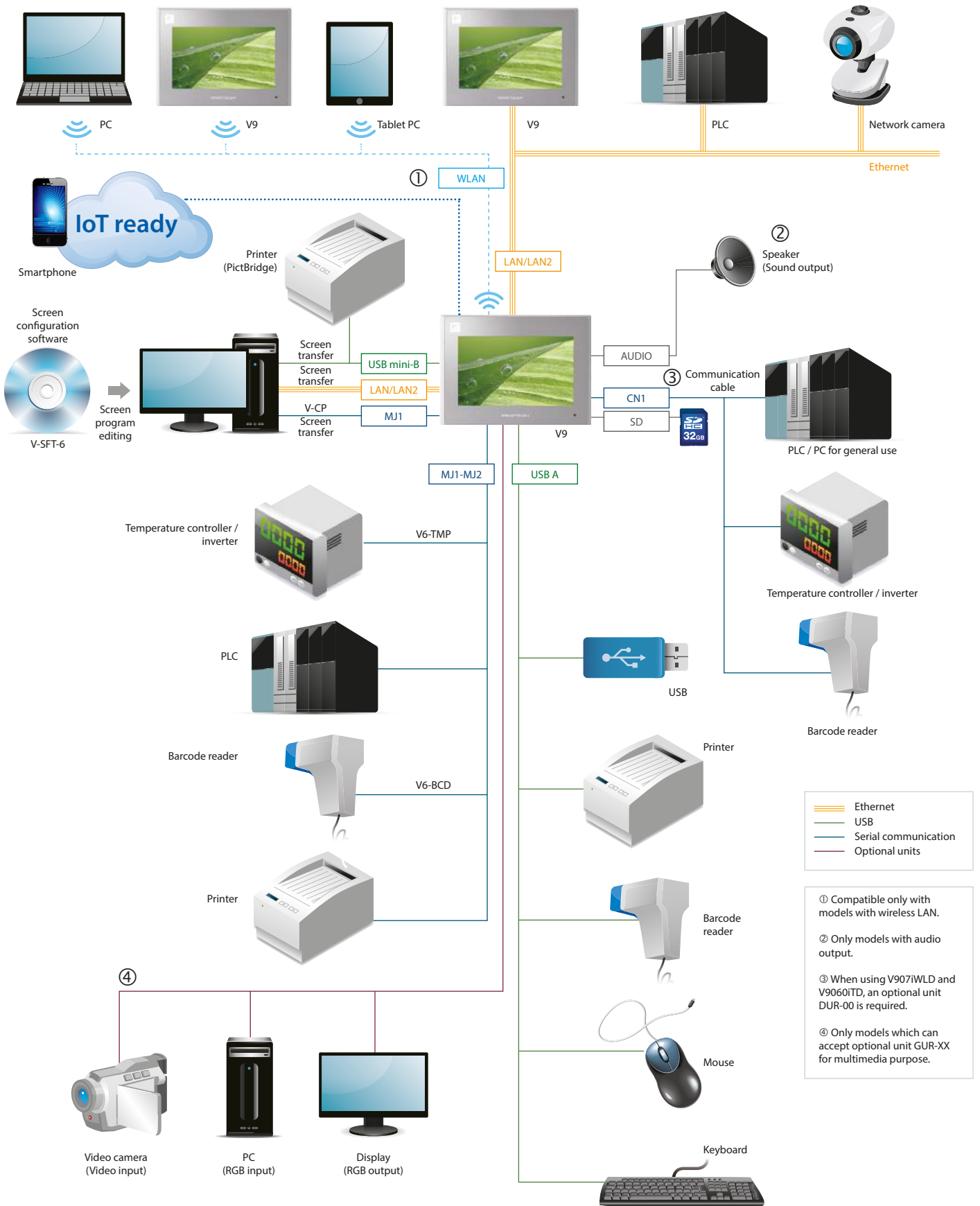
Item		V9 Advanced		V9 Standard	
		V9101iWRLD / V9101iWLD V9100iWRLD / V9100iWLD	V9071iWRLD / V9071iWLD V9070iWRLD / V9070iWLD	V9150iXLD V9150iXD	V9120iSLD V9120iSD
Screen memory (FROM)		64 MB			
Backup memory (SRAM)		800 KB			
Display	Display device	TFT color LCD			
	Resolution	1024 x 600	800 x 480	1024 x 768	800 x 600
	Display size	10.1" wide	7" wide	15"	12.1"
	Colors	16.7 million <sup>2</sup>			
	Backlight	LED			
	Backlight life	50,000 hours	100,000 hours		70,000 hours
Touch switch	Type	Capacitive		Resistive	
Function switch	Quantity	None		8	
External interface	D-Sub 9-pin (CN1) <sup>3</sup>	RS-232C / RS-422 / RS-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 <sup>4</sup> bps			
	Modular 8-pin (MJ1 / MJ2)	RS-232C / RS-422 / RS-485 (two-wire-system) <sup>5</sup> , 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: 100 Mbps, 10 Mbps		1ch, baud rate: 100 Mbps, 10 Mbps	
	Wireless LAN	Complies with IEEE802.11 b/g/n (2.4 GHz) <sup>6</sup>			
	USB	Type A, Type mini-B (Ver. 2.0)			
	Sound output	1 ch provided as standard	-	1 ch 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 <sup>7</sup>	EN61000-6-2, EN6100-6-4			
	UL cUL <sup>7</sup>	UL508		UL508, ANSI/ISA 12.12.01 <sup>8</sup>	
	KC	Compliant			
	Radio Act <sup>6</sup>	EU: R&TTE / USA: FCC / Canada: IC RSS Japan: TELEC / South Korea: KC		Japan: TELEC	

V9 Standard		V9 Lite		
V9100iSLD V9100iSD	V9080iSLD V9080iSD	V9100iCD	V9080iCD	V9060iTD
24 VDC				
± 10%				
Within 1 ms				
28 W or less		17 W or less		13 W or less
17 A or less, 6 ms				
DC 500 V 10 MΩ or more				
0~50° C <sup>1</sup>				
85% RH or less (without dew condensation) <sup>1</sup>				
2,000 m or lower				
Not to be exposed to corrosive gas, or conductive dust				
-10~60°C <sup>1</sup>				
85% RH or less (without dew condensation) <sup>1</sup>				
Level 2				
JIS B 3502 (IEC61131-2) compliant, vibration frequency: 5~9 Hz, half-amplitude: 3.5 mm, vibration frequency: 9~150 Hz, constant acceleration: 9.8 m/s <sup>2</sup> (1G), X, Y, Z: 3 directions (10 times each)				
JIS B 3502 (IEC61131-2) compliant, peak acceleration: 147 m/s <sup>2</sup> (15G), X, Y, Z: 3 directions, 3 times each (18 times in total)				
Noise voltage: 1,500 Vp-p, pulse width: 1 μs, pulse rise time: 1 ns				Noise voltage: 1,000 Vp-p, pulse width: 1 μs, pulse rise time: 1 ns
Complies with IEC6100-4-2, contact: 6 KV, air: 8 KV				
Grounding resistance: less than 100 Ω, FG/SG separation				
Protection structure: front case: IP66, TYPE4X/13 <sup>7</sup> (when water-proof gasket is used), Rear case: IP20, single unit, installation method: panel mounting				
Natural air cooling				
303.8 x 231 x 54	235 x 180 x 48.9	303.8 x 231 x 54	235 x 180 x 48.9	182.5 x 138.8 x 53
289 x 216.2 (+0.5/-0)	220.5 x 165.5 (+0.5/-0)	289 x 216.2 (+0.5/-0)	220.5 x 165.5 (+0.5/-0)	174 x 131 (+0.5/-0)
Approx. 2.0 kg	Approx. 1.3 kg	Approx. 2.0 kg	Approx. 1.3 kg	Approx. 740 g
Light grey (black front housing for black model)				
PC resin				

V9 Standard		V9 Lite		
V9100iSLD V9100iSD	V9080iSLD V9080iSD	V9100iCD	V9080iCD	V9060iTD
64 MB				
800 KB				
TFT color LCD				
800 x 600		640 x 480		
10.4"	8.4"	10.4"	8.4"	5.7"
16.7 million <sup>2</sup>				260,000 <sup>2</sup>
LED				
70,000 hours			50,000 hours	
Resistive				
8				6
RS-232C / RS-422 / RS-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 <sup>4</sup> bps				
RS-232C / RS-422 / RS-485 (two-wire-system) <sup>5</sup> , 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				
One card slot provided as standard				
1 ch, baud rate: 100 Mbps, 10 Mbps				
Complies with IEEE802.11 b/g/n (2.4 GHz) <sup>6</sup>		-		
Type A, Type mini-B (Ver. 2.0)				
1 ch 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, EN6100-6-4				
UL508, ANSI/ISA 12.12.01 <sup>8</sup>		UL508		UL508, ANSI/ISA 12.12.01 <sup>8</sup>
Compliant				
Japan: TELEC		-		

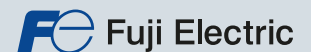
7: V91011W: Hardware of Ver. c or later. V9120iSD / V9100iSD / V9080iSD / V9100iCD / V9080iCD: Hardware of Ver. b or later. V90711W / V9150iXD / V9060iTD: All versions.  
 8: V9120iSD / V9100iSD / V9080iSD: Hardware of Ver. b or later. V9060iTD: All versions.

# Enjoy the full connectivity of V9 series



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