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Fuji Electric

Innovating Energy Technology

Programmable Operator Interface

MONITOUCH

V8 series



⚠ Safety Considerations

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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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- Colors in the catalog may differ from the actual colors due to printing inaccuracies.
- Consult your distributor or us for further information about products in this catalog.

www.monitouch.com

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Expanding the Possibilities of the Future

Hakko Electronics Co., Ltd.

www.monitouch.com

2012.10

MONITOUCH V8 series

Since the development of the world’ s first programmable displays in 1988, Hakko Electronics has been supplying highly functional products.
With our fine technology as a Japanese manufacturer, we have enabled a reduction in the number of wiring lines and in the amount of space required; this has revolutionized the human-machine interface.
Due to its overwhelming expressive power, operability and functionality, MONITOUCH V8 series have been supported not only by users at production sites, but also by world users as a multi-purpose information terminal.
Fast, accessible and user-friendly. We will help you innovate your system with our MNITOUCH V8 series.



HQ and factory in Ishikawa, Japan

■65,536 colors ■30 fps video display in 16 million colors — P12
■Analog switches — P13
■Compatible with 8-way communication — P14
■Equipped with two USB channels (master/slave) — P16
■Multi-output memory ■ON delay/ OFF delay ■Conditional visibility — P18
■Pop-up window ■Flash ROM 12.5MB/ SRAM 512KB — P19
■Alarm enhancement ■Operation log — P20
■Multi-link 2 Ethernet function — P21
■Configuration software V-SFT — P22
■Component parts — P24
■Ethernet expansion — P26
■MES interface — P28
■Specifications — P29
■Dimensions and part names — P32
■System configuration — P34
■Option — P36
■Option list — P37
■Customer service — P38
■Product warranty — P39



Realize the Ideal

High Performance

The new MONITOUCH series has realized the best possible performance with a newly developed high-speed algorithm and a high level of visibility for efficient operation.

Connectivity

8-way communication with up to eight kinds of devices and two USB channels ensure high compatibility and expandability of your system.

Usability

User-friendly component parts and functional switches enable simple and speedy display configuration.

Our wide range of products allows you to select the one that best fits your needs.

LED Back light　TFT Display device　SVGA Display resolution　64K Color Display color

		15.0 inches	12.1 inches	10.4 inches		8.4 inches	7.7 inches	5.7 inches		
NEW V8 series Revolutionary features for production sites: 8-way communication and 16-million colors high-resolution video display. As well as V8 series have the same panel cutouts as V7 series, the V7 screen program can be utilized in V8 series. A multi-feature model with the ultimate operator interface panel.	High-performance model	V815iX LED TFT XGA 64K Color	V812iS/V812S LED TFT SVGA 64K Color	V810iS/V810S LED TFT SVGA 64K Color	V810iT/V810T LED TFT VGA 64K Color	V808iSD/ V808SD LED TFT SVGA 64K Color				
	Standard model				V810iC/V810C LED TFT VGA 64K Color	V808iCD/ V808CD LED TFT VGA 64K Color	V808iCH/ V808CH CCFL TFT VGA 64K Color	V806iTD/ V806TD LED TFT QVGA 64K Color	V806iCD/ V806CD LED TFT QVGA 64K Color	V806iMD/ V806MD LED TFT QVGA MONO
V7 series Comes in a variety of models including large-size (15-inch XGA) and small-size (5.7-inch). A versatile and high-ranking series that can be widely used ranging from the net working to stand-alone.*Production of the V7 series will terminate on March 29, 2013. (Orders were accepted until September 28, 2012).	High-performance model	V715X CCFL TFT XGA 32K Color	V712iS/V712S CCFL TFT SVGA 32K Color	V710iS/V710S CCFL TFT SVGA 32K Color	V710iT/V710T CCFL TFT VGA 32K Color	V708iSD/ V708SD CCFL TFT SVGA 32K Color				
	Standard model				V710C CCFL TFT VGA 128 Color			V706TD CCFL TFT QVGA 32K Color	V706CD CCFL STN QVGA 32K Color	V706MD CCFL STN QVGA MONO
V6 series Has all of the basic functions. Entry-level models that will satisfy your needs in superior usability and cost-effectiveness.	Standard model							V606eC CCFL STN QVGA 16 Color		V606eM CCFL STN QVGA MONO

V815 series

All information at the production site is displayed on the XGA wide screen! Flagship model in V8 series.

15-inch model CE cULus LISTED *2

Flagship model XGA 65,536 colors

X



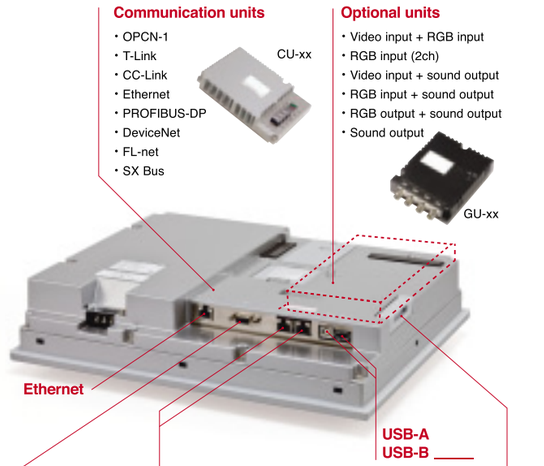
15 inches | LED | TFT | XGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | A・B USB | Analog | Ether

V815iX option RGB option option AC power

V815iXD option RGB option option DC power

V815 models

V815iX □ [Power supply specifications] N/A: AC100-240V specifications D: DC24V (CE/UL/cUL approved)



	Model	V815iX
Basic specification	Display size	15 inches
	Display device	TFT color LCD
	Resolution	1,024×768 dots
	Display colors	65,536 colors(without blinks)/32,768 colors(with blinks)
	Display memory	FROM (12.5MB)
	Backup memory	SRAM (512KB)
Interface	D-Sub 9-pin CN1	RS-232C, RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200, 187500*1bps
	Modular 8-pin MJ1/MJ2	RS-232C・RS-422/485(2-wire), Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps
	Ethernet	100BASE-TX /10BASE-T Built-in
	Communication I/F	Equipped
	Extend I/F	Equipped
	CF card I/F	Equipped
	USB I/F	Type A and B(Ver1.1)
Options	Video (4ch)	GU-00
	RGB input	GU-01
	RGB output	GU-02
	Video (2ch)+RGB input	GU-10
	RGB input (2ch)	GU-11
	Sound output	GU-00 ~ 03
	Communication unit	CU-00 ~ 08
	I/O unit	V-I/O
Compatibility	CE Marking*2	EN61000-6-2, EN61000-6-4
	UL/cUL*2	UL508
	Marine Standards*2 *3	NK, LR, DNV, ABS, BV, CCS, GL
	RoHS directive	Complied

*1 When connected with SIEMENS MPI
*2 Only with 24V DC models
*3 If you need a unit that complies with the marine standards, please contact us.

V812 series

High visibility and stability of SVGA. Offers you high performance.

12.1-inch model CE cULus LISTED *2

High-performance model SVGA 65,536 colors

S



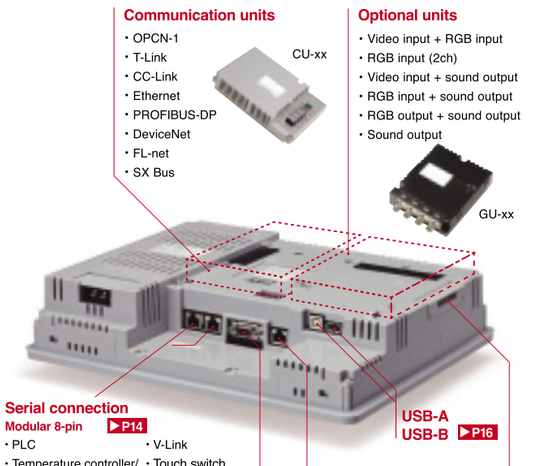
12.1 inches | LED | TFT | SVGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A・B USB

With Ethernet port
V812iS Ether option RGB option option

Without Ethernet port
V812S Ether option

V812 models

V812 □ S □□ [Power supply specifications] N/A: AC100-240V specifications D: DC24V (CE/UL/cUL approved)
[Touch switch specifications] N/A: Analog resistive switch M: Matrix resistive switch
[Functional specifications] N/A: Without built-in LAN port, without optional unit port
i: With built-in LAN port, with optional unit port



	Model	V812iS	V812S
Basic specification	Display size	12.1 inches	
	Display device	TFT color LCD	
	Resolution	800×600 dots	
	Display colors	65,536 colors(without blinks)/32,768 colors(with blinks)	
	Display memory	FROM (12.5MB)	
	Backup memory	SRAM (512KB)	
Interface	D-Sub 9-pin CN1	RS-232C, RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200, 187500*1bps	
	Modular 8-pin MJ1/MJ2	RS-232C・RS-422/485(2-wire), Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps	
	Ethernet	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)
	Communication I/F	Equipped	
	Extend I/F	Equipped	–
	CF card I/F	Equipped	
	USB I/F	Type A and B(Ver1.1)	
Options	Video (4ch)	GU-00	–
	RGB input	GU-01	–
	RGB output	GU-02	–
	Video (2ch)+RGB input	GU-10	–
	RGB input (2ch)	GU-11	–
	Sound output	GU-00 ~ 03	–
	Communication unit	CU-00 ~ 08	
	I/O unit	V-I/O	
Compatibility	CE Marking*2	EN61000-6-2, EN61000-6-4	
	UL/cUL*2	UL508/UL1604*3	
	Marine Standards*2 *4	NK, LR, DNV, ABS, BV, CCS, GL	
	RoHS directive	Complied	

*1 When connected with SIEMENS MPI
*2 Only with 24V DC models
*3 Contact us if UL1604 needs to be supported.
*4 If you need a unit that complies with the marine standards, please contact us.

Legend of icons

12.1 inches Display size (inches) | LED CCFL Back light | TFT STN Display device | SVGA Display resolution | 64K color Display colors | 12.5M FROM FROM capacity | 512K SRAM SRAM (byte) | 3ch serial Serial port | Ether Ethernet 100BASE-TX/10BASE-T | COM I/F Communication unit I/F | CF CF card I/F | A・B USB USB I/F | AC power Power Supply | Analog Matrix Analog switch / Matrix switch | option Video input | RGB option RGB input/output | option Sound output | option Option

V810 series

**High-performance panels in 65,536 colors
Three grades of models from standard to high-performance**

10.4-inch model CE cULus LISTED *4

High-performance model SVGA



10.4 inches | LED | TFT | SVGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A•B USB

With Ethernet port
V810iS Ether | option | RGB option | option
Without Ethernet port
V810S Ether option

Highly-functional model VGA



10.4 inches | LED | TFT | VGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A•B USB

With Ethernet port
V810iT Ether | option | RGB option | option
Without Ethernet port
V810T Ether option

Standard model VGA



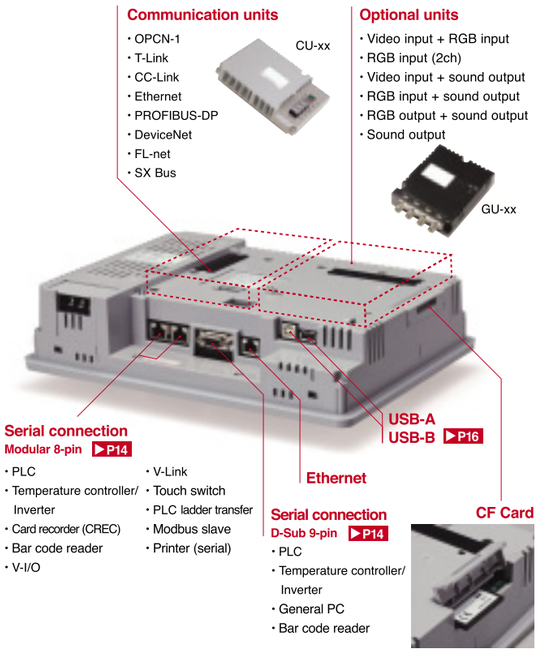
10.4 inches | LED | TFT | VGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A•B USB

With Ethernet port
V810iC Ether
Without Ethernet port
V810C *1 Ether option

V810 models

V810 □□□□
- [Power supply specifications] N/A: AC100-240V specifications D: DC24V (CE/UL/cUL approved)
- [Touch switch specifications] N/A: Analog resistive switch M: Matrix resistive switch
- [Device specifications] S: TFT color LCD (SVGA) T: TFT color LCD (VGA) C: TFT color LCD (VGA)
- [Functional specifications] N/A: Without built-in LAN port, without optional unit port
  i: With built-in LAN port, with optional unit port *2

*1 FROM 4.5Mbytes • SRAM 128Kbytes
*2 Optional ports are not available in V810iC



	Model	V810iS	V810S	V810iT	V810T	V810iC	V810C
Basic specification	Display size	10.4 inches					
	Display device	TFT color LCD					
	Resolution	800×600 dots		640×480 dots			
	Display colors	65,536 colors(without blinks)/32,768 colors(with blinks)					
	Display memory	FROM (12.5MB)					FROM (4.5MB)
	Backup memory	SRAM (512KB)					SRAM (128MB)
Interface	D-Sub 9-pin CN1	RS-232C, RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits, Baud rate: 4800, 9600, 19200, 38400,57600, 76800, 115200, 187500*3bps					
	Modular 8-pin MJ1/MJ2	RS-232C • RS-422/485(2-wire), Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps					
	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)
	Communication I/F	Equipped					
	Extend I/F	Equipped	–	Equipped	–	–	–
	CF card I/F	Equipped					
	USB I/F	Type A and B(Ver1.1)					
Options	Video (4ch)	GU-00	–	GU-00	–	–	–
	RGB input	GU-01	–	GU-01	–	–	–
	RGB output	GU-02	–	GU-02	–	–	–
	Video (2ch)+RGB input	GU-10	–	GU-10	–	–	–
	RGB input (2ch)	GU-11	–	GU-11	–	–	–
	Sound output	GU-00 ~ 03	–	GU-00 ~ 03	–	–	–
	Communication unit	CU-00 ~ 08					
	I/O unit	V-I/O					
Compatibility	CE Marking*4	EN61000-6-2, EN61000-6-4					
	UL/cUL*4	UL508/UL1604*5					
	Marine Standards*4 *6	NK, LR, DNV, ABS, BV, CCS, GL					
	RoHS directive	Complied					

*3 When connected with SIEMENS MPI
*4 Only with 24V DC models
*5 Contact us if UL1604 needs to be supported.
*6 If you need a unit that complies with the marine standards, please contact us.

Legend of icons

12.1 inches Display size (inches) | LED CCFL Back light | TFT STN Display device | SVGA Display resolution | 64K color Display colors | 12.5M FROM FROM capacity | 512K SRAM SRAM (byte) | 3ch serial Serial port | Ether Ethernet 100BASE-TX/10BASE-T | COM I/F Communication unit I/F | CF CF card I/F | A•B USB I/F | AC power Power Supply | Analog Matrix Analog switch / Matrix switch | Video option Video input | RGB option RGB input/output | Sound option Sound output | Option

V808 series

Compact yet functional panels in 65,536 colors. SVGA models are also available.

8.4-inch model CE cULus LISTED

High-performance model SVGA



8.4 inches | LED | TFT | SVGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A•B USB | DC power | Analog

With Ethernet port
V808iSD Ether | option | RGB option | option
Without Ethernet port
V808SD Ether option

Standard model VGA



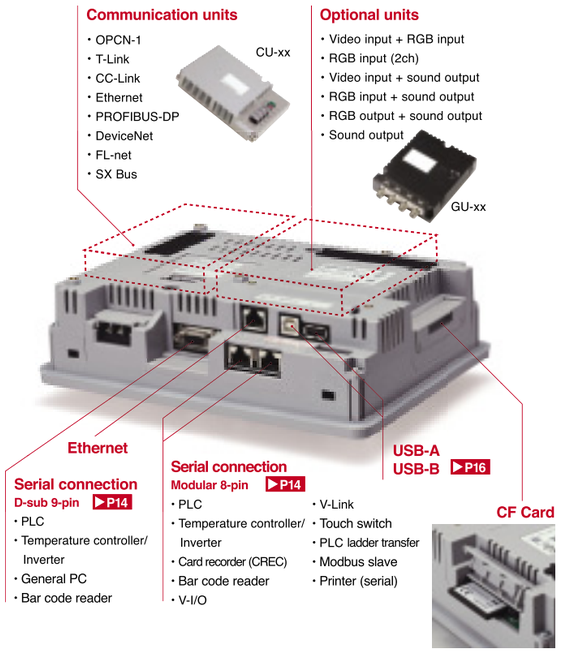
8.4 inches | LED | TFT | VGA | 64K color | 12.5M FROM | 512K SRAM | 3ch serial | COM I/F | CF | A•B USB | DC power | Analog

With Ethernet port
V808iCD Ether
Without Ethernet port
V808CD *1 Ether option

V808 models

V808 □□ D
- [Device specifications] S: TFT color LCD (SVGA) C: TFT color LCD (VGA)
- [Functional specifications] N/A: Without built-in LAN port, without optional unit port
  i: With built-in LAN port, with optional unit port *2

*1 FROM 4.5Mbytes • SRAM 128Kbytes
*2 Optional ports are not available in V808iC



	Model	V808iSD	V808SD	V808iCD	V808CD
Basic specification	Display size	8.4 inches			
	Display device	TFT color LCD			
	Resolution	800×600 dots		640×480 dots	
	Display colors	65,536 colors(without blinks)/32,768 colors(with blinks)			
	Display memory	FROM (12.5MB)		FROM (4.5MB)	
	Backup memory	SRAM (512KB)		SRAM (128MB)	
Interface	D-Sub 9-pin CN1	RS-232C, RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400,57600, 76800, 115200, 187500*3bps			
	Modular 8-pin MJ1/MJ2	RS-232C • RS-422/485(2-wire), Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps			
	Ethernet	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)	100BASE-TX /10BASE-T Built-in	Option (CU-03-3)
	Communication I/F	Equipped			
	Extend I/F	Equipped	–	–	–
	CF card I/F	Equipped			
	USB I/F	Type A and B(Ver1.1)			
Options	Video (4ch)	GU-00	–	–	–
	RGB input	GU-01	–	–	–
	RGB output	GU-02	–	–	–
	Video (2ch)+RGB input	GU-10	–	–	–
	RGB input (2ch)	GU-11	–	–	–
	Sound output	GU-00 ~ 03	–	–	–
	Communication unit	CU-00 ~ 08			
	I/O unit	V-I/O			
Compatibility	CE Marking	EN61000-6-2, EN61000-6-4			
	UL/cUL	UL508/UL1604*4			
	Marine Standards*5	NK, LR, DNV, ABS, BV, CCS, GL			
	RoHS directive	Complied			

*3 When connected with SIEMENS MPI
*4 Contact us if UL1604 needs to be supported.
*5 If you need a unit that complies with the marine standards, please contact us.

V806 series

High-performance compact models

5.7-inch model

Standard model QVGA 65,536 colors

T



5.7 inches | LED | TFT | QVGA | 64K color | 4.5M FROM | 512K SRAM | 2ch serial | COM I/F | A•B USB | DC power | Analog

With Ethernet port
V806iTD Ether | CF option

Without Ethernet port
V806TD[*1] Ether option | CF option [*2]

Standard model QVGA 65,536 colors

C



5.7 inches | LED | TFT | QVGA | 64K color | 4.5M FROM | 512K SRAM | 2ch serial | COM I/F | A•B USB | DC power | Analog

With Ethernet port
V806iCD Ether | CF option

Without Ethernet port
V806CD[*1] Ether option | CF option [*2]

Standard model QVGA (16 grayscale)

M



5.7 inches | LED | TFT | QVGA | MONO | 4.5M FROM | 512K SRAM | 2ch serial | COM I/F | A•B USB | DC power | Analog

With Ethernet port
V806iMD Ether | CF option

Without Ethernet port
V806MD[*1] Ether option | CF option [*2]

*1 SRAM 128Kbytes
*2 Concurrent use of Ethernet and CF card is not available

V806 models

V806 □□ D

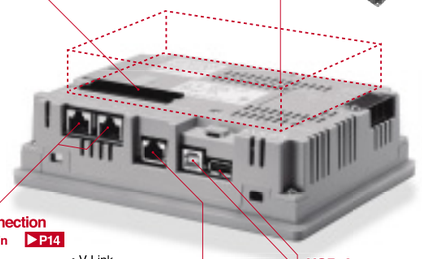
[Device specifications] T: TFT color LCD (QVGA) C: TFT color LCD (QVGA) M: TFT monochrome LCD (QVGA)
[Functional specifications] N/A: Without built-in LAN port i: With built-in LAN port

Communication units [*3]
- OPCN-1
- T-Link
- CC-Link
- Ethernet
- PROFIBUS-DP
- DeviceNet
- FL-net
- SX Bus

CU-xx

Optional units [*3]
- D-Sub 9-pin + CF Card I/F

DU-10



Serial connection
Modular 8-pin ▶P14
- PLC
- Temperature controller/ Inverter
- Card recorder (CREC)
- Bar code reader
- V-I/O
- V-Link
- PLC ladder transfer
- Modbus slave
- Printer (serial)

USB-A
USB-B ▶P16

Ethernet

	Model	V806iTD	V806TD	V806iCD	V806CD	V806iMD	V806MD
Basic specification	Display size	5.7 inches					
	Display device	TFT color LCD				TFT monochrome LCD	
	Resolution	320×240 dots					
	Display colors	65,536 colors(without blinks) 32,768 colors(with blinks)				16 grayscale (with blinks)	
	Display memory	FROM (4.5MB)					
	Backup memory	SRAM (512KB)	SRAM (128KB)	SRAM (512KB)	SRAM (128KB)	SRAM (512KB)	SRAM (128KB)
Interface	D-Sub 9-pin CN1[*4]	RS-232C・RS-422/485(2-wire), Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps					
	Modular 8-pin MJ1/MJ2[*5]	RS-232C, RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits Baud rate: 4800, 9600, 19200, 38400,57600, 76800, 115200, 187500[*6]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)
	Communication I/F	Equipped					
	CF card I/F	Equipped[*4]					
	USB I/F	Type A and B(Ver1.1)					
Options	Communication unit	CU-00 ~ 08					
	I/O unit	V-I/O					
Compatibility	CE Marking	EN61000-6-2, EN61000-6-4					
	UL/cUL	UL508/UL1604[*7]					
	Marine Standards[*8]	NK, LR, DNV, ABS, BV, CCS, GL					
	RoHS directive	Complied					

*3 Concurrent use of the communication units and the optional units is not available.
*4 Available only when equipped with DU-10 (option).
*5 MJ2 is connectable with RS-422 (4-wire).
*6 Available only when connected with SIEMENS MPI (MJ2 only). Not compatible with D-Sub 9-pin (option).
*7 Contact us if UL1604 needs to be supported.
*8 If you need a unit that complies with the marine standards, please contact us.

Legend of icons

12.1 inches Display size (inches) | LED CCFL Back light | TFT STN Display device | SVGA Display resolution | 64K color Display colors | 12.5M FROM FROM capacity | 512K SRAM SRAM (byte) | 3ch serial Serial port | Ether Ethernet 100BASE-TX/10BASE-T | COM I/F Communication unit I/F | CF CF card I/F | A•B USB USB I/F | AC power Power Supply | Analog Matrix Analog switch / Matrix switch | Video input | RGB input/output | Sound output | Option

V808CH series

Pendant type model in V8 series

7.5-inch model

Handheld type model supporting Ethernet



7.5 inches | CCFL | TFT | VGA | 64K color | 2ch serial | CF | B USB | DC power | Analog

With Ethernet port
V808iCH Ether | 12.5M FROM | 512K SRAM

Without Ethernet port
V808CH 4.5M FROM | 128K SRAM

V808CH models

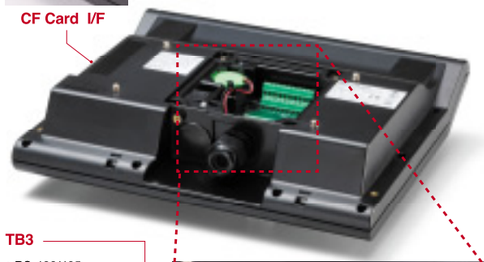
V808 □ CH □

[Functional specifications]
N/A: Without built-in LAN port i: With 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



CF Card I/F

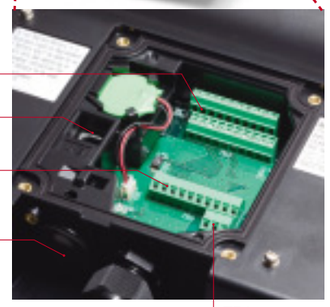


TB3
- RS-422/485
- Key switch output
- Emergency stop switch output
- Deadman switch output

USB-B

TB2
- RS-232C
- External output (4-point)

Ethernet



TB1
power supply (DC24V)

Model	V808iCHx	V808CHx
Display size	7.5 inches	
Display device	TFT color LCD	
Resolution	640×480 dots	
Display colors	65,536 colors(without blinks) / 32,768 colors(with blinks)	
Display memory	FROM (12.5MB)	FROM (4.5MB)
Backup memory	SRAM (512KB)	SRAM (128KB)
Clock	Equipped	
Ethernet	100BASE-TX /10BASE-T Built-in	Unequipped
CF card I/F	Equipped	
USB I/F	Type B (Ver1.1)	
Function switch specifications: Number of function switches	12 switches (4: External output)	
Function switch specifications: Switch type	Membrane switch	
Function switch specifications: Mechanical life	1 million times or more	
Emergency stop switch specifications: Switch type	Push lock type (b-contact point, 2 circuits)	
Emergency stop switch specifications: Mechanical life	More than 100,000 times	
Emergency stop switch specifications: Rated voltage	DC24V	
Emergency stop switch specifications: Rated current	1A (load resistance)	
Key switch specifications: Contact point	a-contact point, 1 circuit	
Key switch specifications: Mechanical life	More than 250,000 times	
Key switch specifications: Electrical life	More than 100,000 times (switching frequency 1,200 times/h)	
Deadman switch specifications: 3-position: Switch type	3-position output (a-contact point, 2 circuits[*1])	
Deadman switch specifications: 3-position: Mechanical life	Off → On 1 million times or more Off → On → Off (direct open-circuit) more than 100,000 times	
Deadman switch specifications: 3-position: Rated voltage	DC24V	
Deadman switch specifications: 3-position: Rated current	1A (load resistance)	
Deadman switch specifications: Momentary: Switch type	Momentary	
Deadman switch specifications: Momentary: Mechanical life	1 million times or more	
External I/F: TB2	RS-232C, Asynchronous Data length: 7 bits, 8 bits Parity: even, odd, none Stop bit: 1 bit, 2 bits, Baud rate: 4800, 9600, 19200, 38400, 76800, 115200bps	
External I/F: TB3	RS-422/485, Asynchronous Data length: 7 bits, 8 bits, Parity: even, odd, none Stop bit: 1 bit, 2 bits, Baud rate: 4800, 9600, 19200, 38400, 76800, 115200, 187500[*2]bps	
Compatibility: CE Marking	EN61000-6-2, EN61000-6-4	
Compatibility: UL/cUL	UL508[*3]	
Compatibility: RoHS directive	Complied	

*1 a-contact point and 2 circuits are available only in V808(i)CH4. Only one circuit is available in V808(i)CH2 and V808(i)CH3.
*2 When connected with SIEMENS MPI.
*3 Contact our sales department for details of compatible items for the UL508.

Display Features

Improved visibility for operator interface panels

Great power of the visibility facilitates the operation by high-resolution and high-speed video display.

High-resolution Display

The image shown below is not an actual display image.

65,536 colors*1

(32,768 colors with blinks)

High-resolution display of 65,536 colors without blinks and 32,768 colors with blinks enables clear display of JPG and BMP images. Realistic appearance of photos, illustrations and 3D parts improves visibility and makes it easy for operators to quickly grasp the conditions.



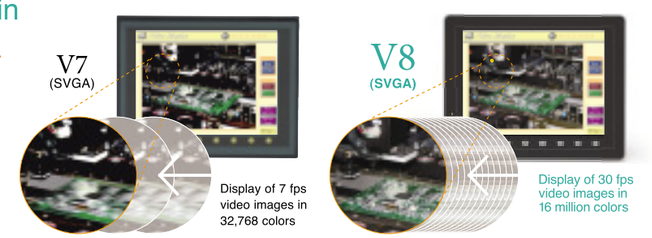
*1 Except V806iMD/V806MD

High-level images are displayed in real time without missing any information

Display of 30 fps video images in 16 million colors*2

First in Industry

High-speed displaying of 30 frames per second is possible. Even displays for production of a short tact time can be made without any delay.



Monochrome display with 256 gradations*2

Monochrome images that are often used by image processor can be displayed more clearly. The reproduction capacity for gradation and pattern-indented surfaces has been drastically improved.



*2 For V808iS, 260,000-color displays and 64-gradation monochrome displays are possible.

Clear and smooth letters

The stroke font can be displayed to appear smooth even for magnified characters.

The stroke font is defined by lines. Since it does not depend on the resolution of the device, which is different from the bitmap font, fonts can be magnified or shrunk freely. Unicode enables you to edit the project in various languages.

Language		Japanese	English/ European	Traditional Chinese	Simplified Chinese	Korean	Central European	Cyrillic	Greek	Turkish	Unicode(UTF-8)
Bitmap font	Non-gothic	● Japanese/Japanese32	●	●	●	●	●	●	●	●	●
	Gothic	● Gothic/Gothic (IBM extension)	● Gothic (Mincho)	×	×	×	×	×	×	×	×
Stroke font		●	●	●	●	●	●	●	●	●	

Operation Features

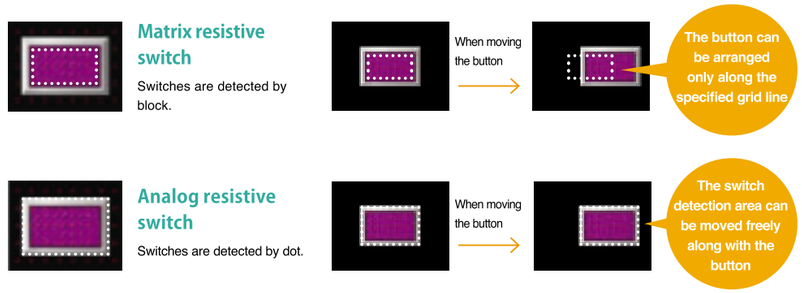
"User-oriented operationality" by high-speed and smooth display

High-speed accelerator and algorithm ensure stress-free operation.

Free switch layout with analog resistive switches

Analog resistive switch

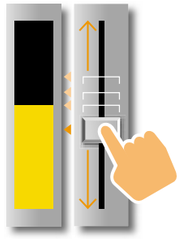
Analog resistive switches are used for MONITOUCH. Freer switch layout facilitates screen designing while more intensive operation display can be produced.



*The area outside the dotted lines is not detected.

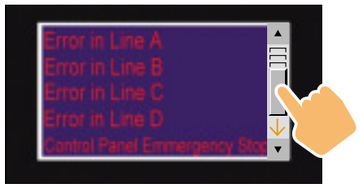
Slider switch

Slider switches enable data entry without inputting data using the numeral key pad. Values can be modified easily and quickly, even for a fine adjustment.



Scroll bar

Messages and JPEG files out of the display area can be seen by scrolling the area.



*Scrolling direction varies depending on functions

Memo pad function

Analog resistive switches allow you to use MONITOUCH as a memo pad for hand writing. You can draw a picture or write a message on the display for use as a message board at production sites.



High-speed accelerator and algorithm ensure speedy, high-quality displays as well as higher usability in panel operation.

V8 series has drastically improved the processing capacity for drawing, calculation and communication in terms of smooth drawing and quick response.

Speedy drawing

V8 is equipped with a high-speed graphic accelerator, which improves speed for drawing graphics and characters.

High-speed communication

High-speed communication with PLCs is possible. By improving communication efficiency, the cycle speed can be shortened even when linked with more than two PLCs.

Quick response

Switch response speed has been shortened by efficient data processing and task assignment.

Communication Features

Multi-communication using the gateway function

Is capable of the connection with up to eight devices by combining Ethernet and serial communication. More advanced and expanded network can be now realized.

Connectable with up to eight different kinds of devices and different manufacturers' PLCs

8-way communication

A combination of Ethernet (eight protocols) and serial communication (three protocols) allows the 8-way communication, which enables connection among a V8 and up to eight kinds of devices consisting of PLCs and peripherals of different manufacturers.

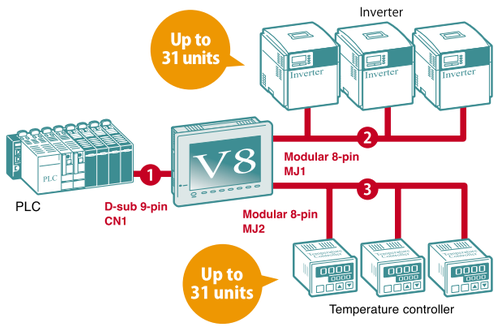
- Simultaneous communication and data transfer with eight kinds of devices
- Simultaneous monitoring and operation of multiple PLCs and peripherals
- Linkage between a V8 and various devices on the LAN network using the gateway function

Network Examples

Example 1 Serial connection (three ports)

Making a network linked with various automation devices

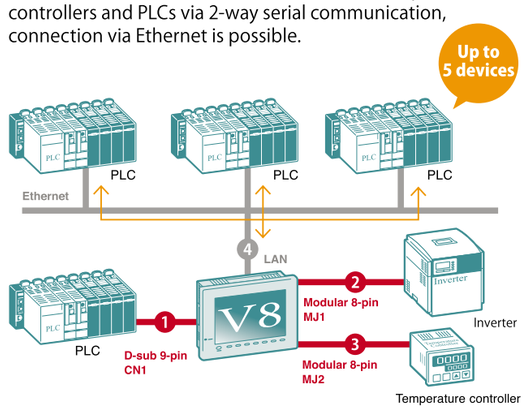
PLCs and peripherals of up to three kinds of units can be connected by serial connection. Even though two or more types of temperature controllers and inverters are used, they can be connected with one V8.



Example 2 Serial connection and Ethernet

Integrated management of up to eight kinds of devices

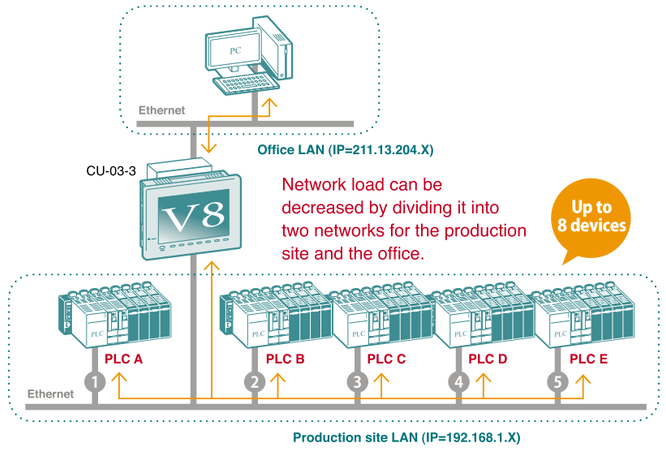
In addition to conventional connection with temperature controllers and PLCs via 2-way serial communication, connection via Ethernet is possible.



Example 3 Ethernet First in Industry

Used as a gateway for different types of networks

V8 can connect with eight kinds of PLCs via Ethernet. In addition, it can be used as a gateway with another network by adding an Ethernet port using the optional unit (CU-03-3).
For example, data can be transferred between a production site and the office freely by using a V8. V8 works as the gateway of multiple networks of the production site and the office without increasing data load on the networks.



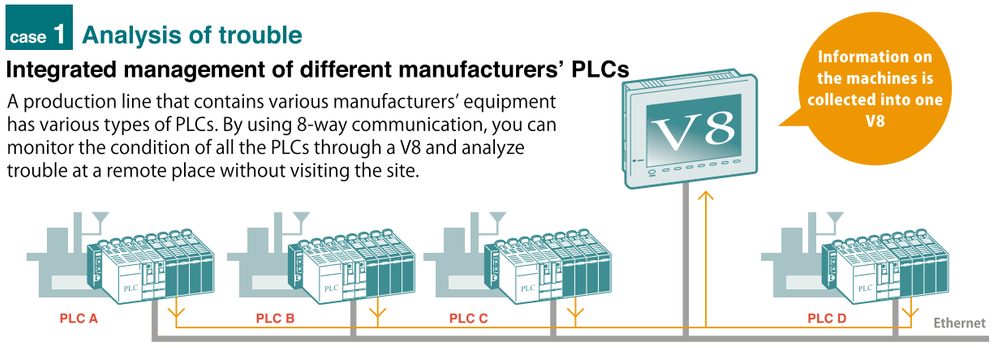
A variety of ingenious uses

8-way communication offers various functions and boosts your convenience

case 1 Analysis of trouble

Integrated management of different manufacturers' PLCs

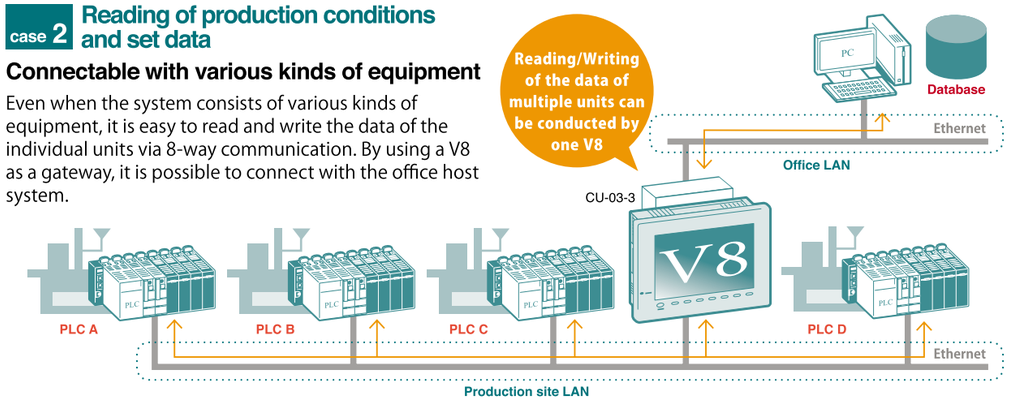
A production line that contains various manufacturers' equipment has various types of PLCs. By using 8-way communication, you can monitor the condition of all the PLCs through a V8 and analyze trouble at a remote place without visiting the site.



case 2 Reading of production conditions and set data

Connectable with various kinds of equipment

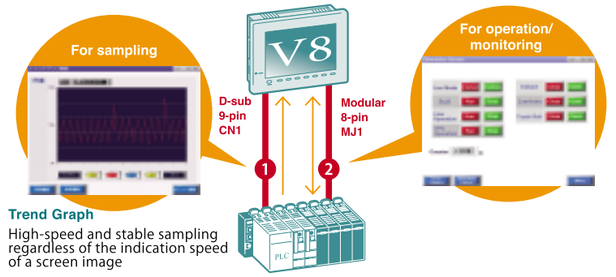
Even when the system consists of various kinds of equipment, it is easy to read and write the data of the individual units via 8-way communication. By using a V8 as a gateway, it is possible to connect with the office host system.



case 3 Real-time indication of information

High-speed data sampling

A V8 is connected to a PLC via two communication lines: one for operation/ monitoring, and the other for sampling, a setup that enables high-speed and stable sampling.



Expandability (USB master/slave)

High compatibility with peripherals makes for more user-friendliness

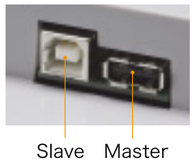
All models are equipped with two types of USB interfaces fitted as standard feature.

High-speed transfer of large-volume data and easy connection to printers

Slave (USB-B)

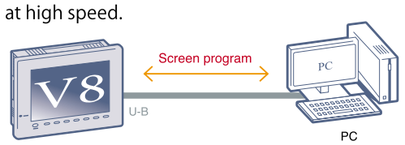
PLC Ladder Program Transfer

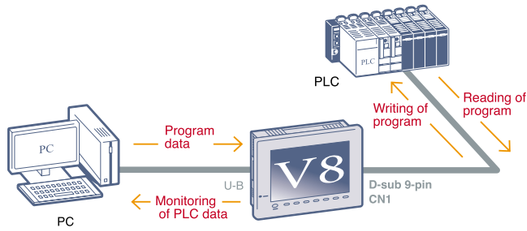
PLC ladder programs can be written or monitored with your PC through the USB port of V8. High-speed ladder transfer is possible.



High-speed Transfer of Screen Program

Large-volume screen program edited by "V-SFT" configuration software can be downloaded and uploaded at high speed.





Compatible with PictBridge Printers

V8 is compatible with PictBridge printers.
With PictBridge-compatible printers, production data such as daily and monthly reports can be printed out easily.

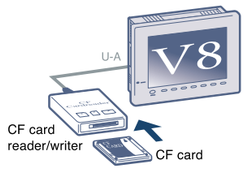


Compatible with PC peripherals including a USB keyboard and a USB mouse

Master (USB-A)

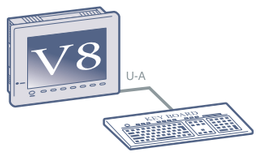
Card Reader/Writer

Connection with our "USB-CFREC" or commercial CF card readers/writers increases the versatility.



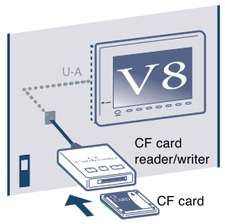
Compatible with USB Keyboard

In addition to conventional software keyboards, a USB keyboard can be connected, which facilitates the entry of long product numbers and code numbers.



USB Interfaces Fitted on the Front

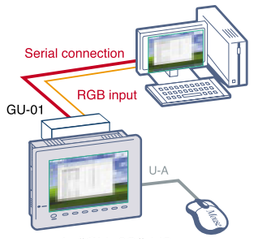
Optional interfaces "UA-FR" and "UB-FR" enable USB ports to be fitted on the front of the display for easy access.



Compatible with USB Mouse

PC operation

By installing an optional RGB input unit "GU-01", "GU-10" or "GU-11", PC screen can be displayed on V8. You can operate the PC screen using a USB mouse.



Output on Large Displays

By installing the optional RGB output unit "GU-02", V8 screen program can be displayed on a large screen and it can be operated using a USB mouse.

Expandability (CF Card)

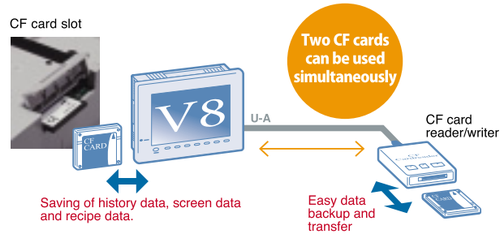
For superior information management

Two-drive system for versatile uses of CF cards

CF card interface and USB reader/writer

Equipped with Two Drives

In addition to the built-in CF card interface, MONITOUCH is equipped with a USB interface for a CF card reader/writer, which can be used simultaneously. Since CF card data can be copied to another card while V8 is being used, the V8 performance will not be inhibited. These functions expand the versatility of MONITOUCH.



Built-in Drive for Constant Use

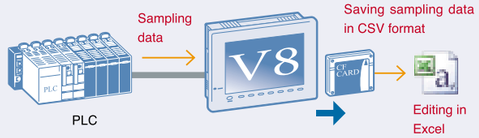
case 1 Recipe Data

Production conditions can be saved in a CF card in CSV format. For preparation of production, data can be read out from a CF card and written in the PLC. It is also possible to read out data from PLC.



case 2 Sampling

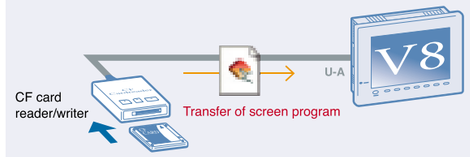
Production data and alarm history can be sampled and saved. Since the data is saved in CSV format, it can be easily edited in Excel.



USB Drive for Easy Data Delivery

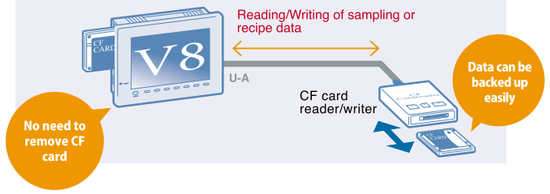
case 3 Screen Program Transfer

Because screen data can be saved on a CF card and read into V8 at a production site by means of a CF card reader/writer, there is no need to bring your PC.



case 4 Data Transfer

While using a CF card as a built-in drive, the card data can be copied to another CF card via the USB interface. Sampling data and recipe data can be backed up easily while keeping the CF card in the slot.



PC-friendliness

Compatible with FAT32

FAT has some limitations. For example, a file name cannot exceed eight characters in length, and extensions must be within three characters. FAT32 allows a data file to have a longer file name, which improves compatibility with PCs.

Impressive Screen

Screen program capacity can be increased by means of a CF card

A CF card can be used as an extension unit for editing the screen. You can design an impressive screen freely without having to worry about data capacity.

Easy Configuration 1

Highly functional switches

Switches with various functions are standardized. No macro or PLC ladder programming is required.

Various switches that meet the individual needs

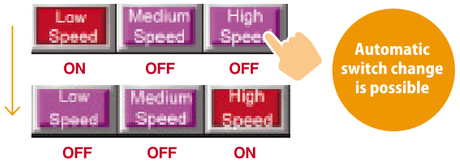
Multi-output

In order to meet diversified needs, switches with various functions are installed.

Multi-output memory
Output up to 16 positions

Switches have a multi-output function. Turning on just one switch makes the other switches turn off. It is also possible to output bit signals up to 16 positions.

For example, when you turn on one switch, the others turn off simultaneously.



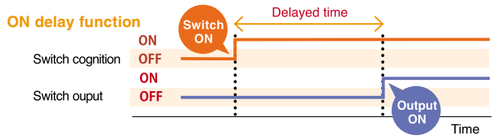
Indication depends on the value

In addition to the bit ON/OFF status, it is possible to set various switch conditions according to the value.



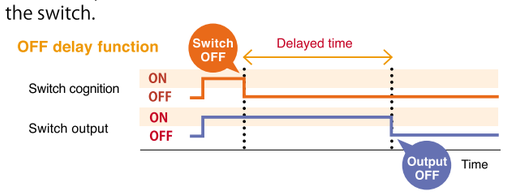
Setting the switch timing freely
ON delay

It is possible to set switch functions such as requiring holding down the button for a certain time. This function prevents a false operation of the switch.



Setting the switch timing freely
OFF delay

Switch output is retained for a certain time after reset of the switch.

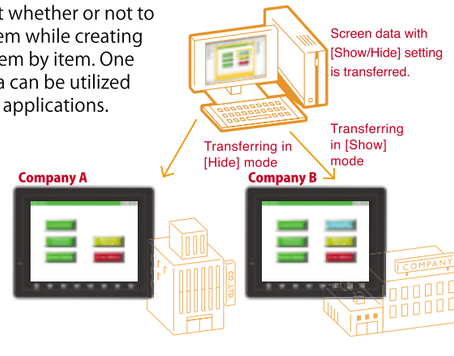


Indication according to individual production sites needs

Conditional Visibility

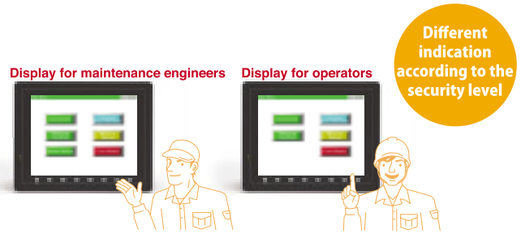
Static conditional visibility

You can set whether or not to show an item while creating a screen, item by item. One screen data can be utilized for differnt applications.



Conditional visibility according to the security level

The display can be arranged according to security level. The security level is controlled by passwords. For example, different displays are shown for a maintenance engineer and an operator.



Dyanamic conditional visibility

Whether items are indicated or not is automatically determined according to the memory condition.

Easy Configuration 2

Convenient functions to meet users' demands

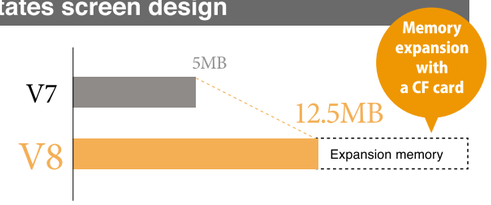
Flash ROM, a large capacity of SRAM and many other functions for more user friendliness

High-capacity memory facilitates screen design

12.5MB*1 Flash ROM

V8 has 12.5MB*1 Flash ROM as standard — twice*2 the capacity of our previous model. In addition, by saving data in a CF card, you can design the screen without caring memory capacity.

*1 SRAM capacity differs depending on the models. See Performance Specifications (P29) for details
*2 Comparison with V7

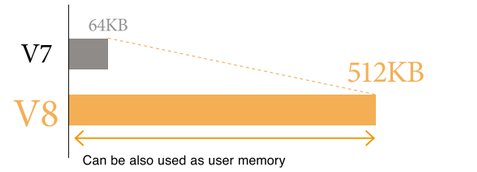


For saving large-volume event history data

512KB*1 SRAM as Standard

The built-in SRAM capacity has been expanded to 512KB*1 — eight times larger than that of our previous model. The capacity for backup of sampling data, operation information, alarm information, etc. has been greatly increased to comply with the ISO standard for information management. The large memory capacity enables quick data processing.

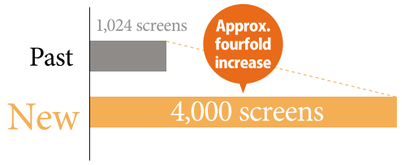
*1 SRAM capacity differs depending on the models. See Performance Specifications (P29) for details



Extended screen number

Enhanced configuration function

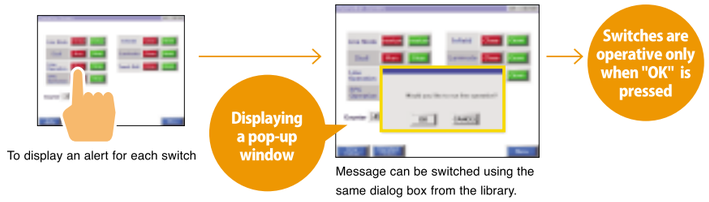
The upper limit of the number of configurable screens is extended to 9,999. Up to 4,000 screens can be stored in a V8. Additionally they can be saved in CF card, which means you do not need to care about screen data capacity.



Easy-to-make pop-up message

Pop-up Window

Pop-up window is standardised. No programming or individual message edit is required for making a dialog such as an alert.



Easy Configuration 3

Quick response for quick troubleshooting

Alarm enhancement

Both a message and a parameter are loaded and displayed on the screen when any alarm happens. For example, if the water temperature gets more than 100°F, not only "caution" alarm but temperature data like "100°F! Caution" can be displayed on the screen. It is facilitated to analyze causes of failure by more detailed information.

Setting image

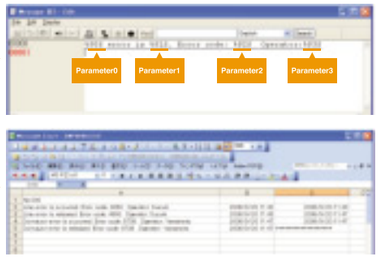
Parameter table

Up to 8 parameters can be registered and associated with each alarm.

No.	Memory	Type
0	D4	Message No.
1	M0	Bit
2	D5	Numerical value (one word)
3	D6	Characters (8 characters)
.	.	.
.	.	.
.	.	.

Message editing

Describe a parameter number that is registered when you edit a message. Then the memory that is set in the parameter is loaded and displayed when this message is displayed.



A parameter is loaded and a message that is corresponding to the situation is displayed when an alarm happens.

Displayed content can be saved in CF card as CSV formatted file, which makes it easier to analyze causes of failure.

Operation log

Operations such as pushing buttons on the screen and entering numbers are recorded in chronological order. By combining it with the password function, you can view "Who, When, What, & How" history to analyze causes of failure.

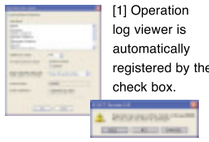


Operation history is saved as a binary file. You do not have to be worried about falsification of data.

Items	Timing to save
Start	When turning on power
Transfer	During the transfer time of screen data or I/F driver
Mode switching	When switching between RUN screen and Main Menu screen
Screen switching	When switching screens
Language switching	When switching languages
Switch operation	When pushing on the switch
Data display updating*	When changing Number display/String display depending upon input modes
CF card writing error	When an error has occurred while a CF card was being filled out
Log discarding	When clearing SRAM data and save a new log

*Tabla Data Display is not supported.

By easy installation of checking "registration of operation log viewer", all functions of the viewer can be used.



[1] Operation log viewer is automatically registered by the check box.



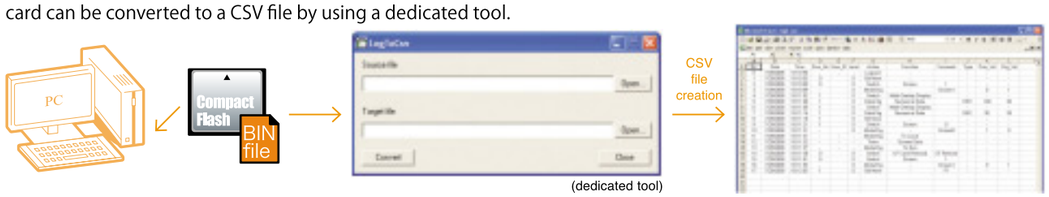
[2] By using a cursor to select, the information of the selected operation log is displayed on the screen.



[3] Setting such as Display/Hide of items and number of characters can be customized as you like.

CSV conversion

The binary file of operation history which was saved in a CF card can be converted to a CSV file by using a dedicated tool.



(dedicated tool)

Easy Configuration 4

High-level functions for high-level solutions

Conditional visibility of trend sampling data

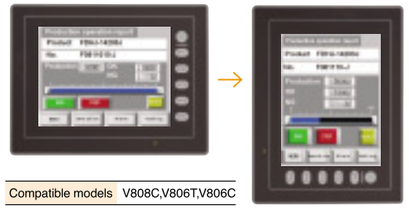
You can select a waveform of trend sampling and display/ hide it.



Screen sharing is achieved as the waveform that is appropriate for the machine specifications can be selected.

Supporting portrait orientation

You can edit on a longitudinal screen.



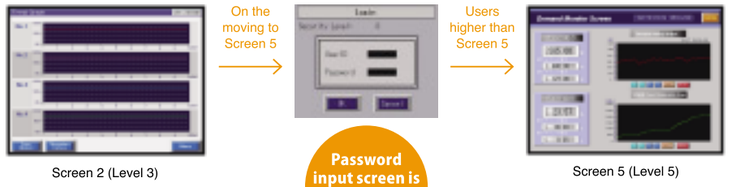
This function is the most appropriate for the machine without enough horizontal spaces.

Compatible models	V808C,V806T,V806C

*The direction in which the screen turns differs depending on the model.

Function security

Security levels from 0 to 15 can be set per screen. By setting function limit appropriate for each user, highly secured environment can be established.



Screen 2 (Level 3)

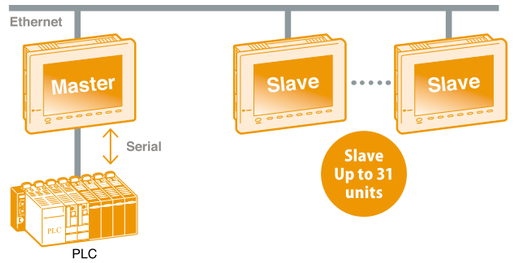
Screen 5 (Level 5)

Interlock of the switch

Security levels can be set in the switches as well.
Only those who login with an appropriate levels can use the switches.

Multi-link 2 via Ethernet

Multi-link 2 connection via Ethernet is supported. When connecting multiple V8s to one PLC, much faster transferring can be achieved comparing to existing multi-link.



Added macros

Mathematics/trigonometric function macros

Commands regarding to trigonometric function such as sine (SIN), cosine (COS) and tangent (TAN), absolute value and sign inversion are added.

Control statement macros

"IF ～ ELSE" statement is supported. You can write shortly and easily condition comparison macros.

CF card (sampling) macros

You can save a sampling data of buffering area in any file name as a CSV file.

CF card (hard copy) macros

You can save an image on the screen in any file name.

Configuration Software [V-SFT]

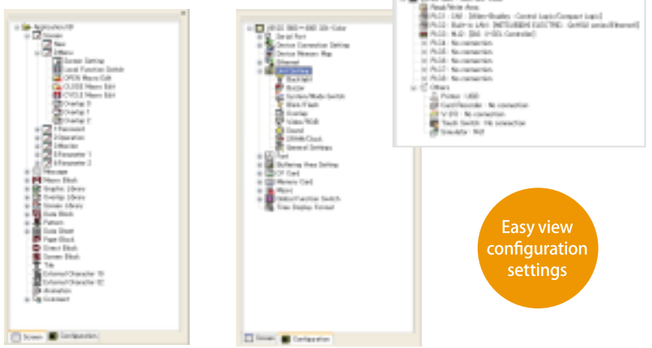
New V-SFT for easy screen configuration

Multiple windows provides immediate access to all application data.

Overall View of All the Devices

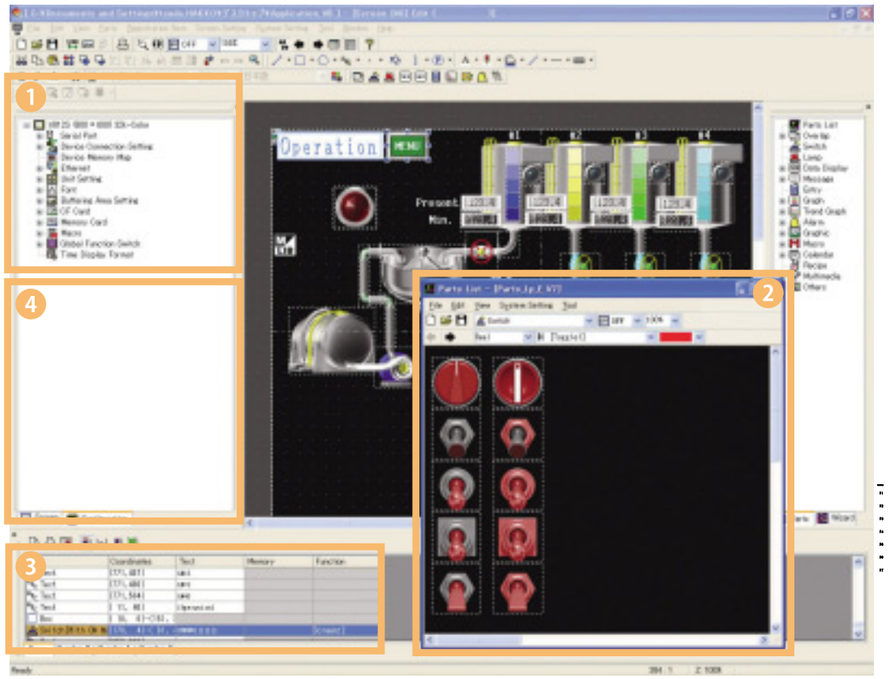
Project View (1)

- System tree diagrams show the configuration of files and screens in the entire system.
- Easy viewing and modification of the contents and configuration of each block.



Easy view configuration settings

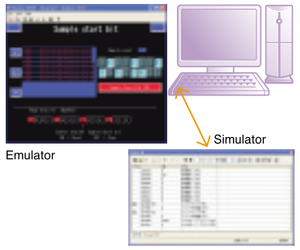
[Screen] and [Configuration] windows are easily switched by clicking tabs.



Quick Debugging on Your PC

Emulation function for Easy Debugging

With the emulator of V-SFT Ver.5, data debugging is possible on your PC without V8 or PLC.



MONITOUCH
V-SFT *Ver. 5*

■ V-SFT Requirements

PC	PC/AT compatible machine with Windows
OS	Windows 98SE/ Me/ NT Version 4.0/ 2000/ XP/ XP 64 edition/ Vista 32bit/Vista 64bit/Win7 32bit/Win7 64bit*
CPU	Pentium III 800 MHz or higher (Pentium IV 2.0 GHz or higher is recommended.)
Memory	512 MB or more
Hard disk	For installation: 1 GB or more available space
CD-ROM Disk drive	24 times or faster
Display	Resolution of 1,024 × 800 (XGA) or higher
Color indication	High color (16 bit) or higher

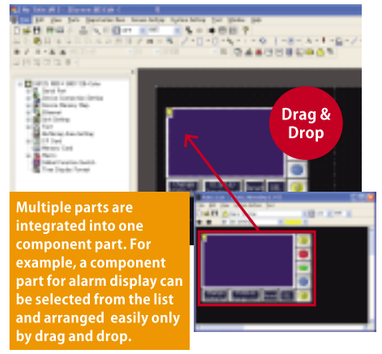
* When installing in Windows NT Ver.4/ 2000/ XP/ XP 64 edition/ Vista 32bit/Vista 64bit/ Win7 32bit/Win7 64bit, administrator authority is required.



Quick Arrangement with Component Parts

Parts View (2)

- Various parts are listed for each item.
- Select a part, and drag & drop it on the configuration window.

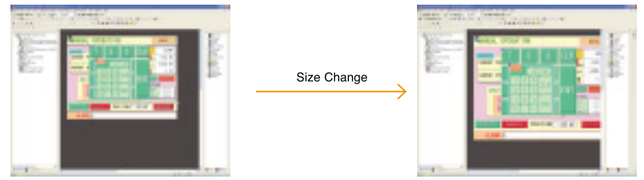


Multiple parts are integrated into one component part. For example, a component part for alarm display can be selected from the list and arranged easily only by drag and drop.

Easy and Speedy Display Configuration

Auto Size Change

When using screen data from a panel with different screen resolution, screen size is automatically adjusted to your selected model.



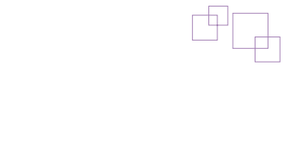
VGA (640×480 pixels) → Switched to V812iS SVGA (800×600 pixels)

Since the screen size is automatically adjusted, no modification for arrangement is required.

Convenient Item View (3)

Direct editing

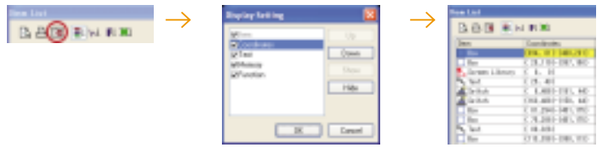
Memory condition, coordinates, switch names can be entered in the item view.
Memory address, position, and text can be directly entered in the item list.



Easy editing by selecting items

Coordinate items view

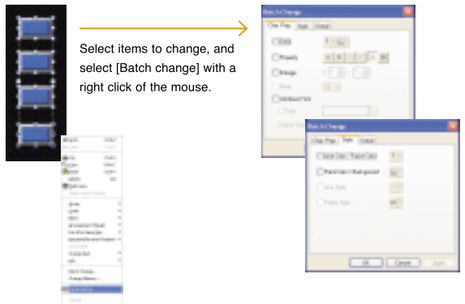
Utilize [Display setting] in the item list to minimize or maximize item properties in the windows. This system facilitates efficient management of information.



Enhanced Batch Change Functions

Additional items for batch change

More items can be changed simultaneously by batch change.

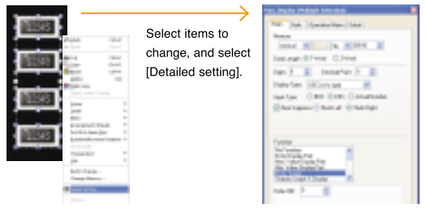


Batch change with the item view (4)

Multiple items can be selected to change the setting simultaneously on the item view window.

<Available items>

Switches, lamps, values, characters, messages, bar/circle graphs, panel meters, closed-area/statistical graphs



Component Parts

"Component Parts" facilitate screen configuration.

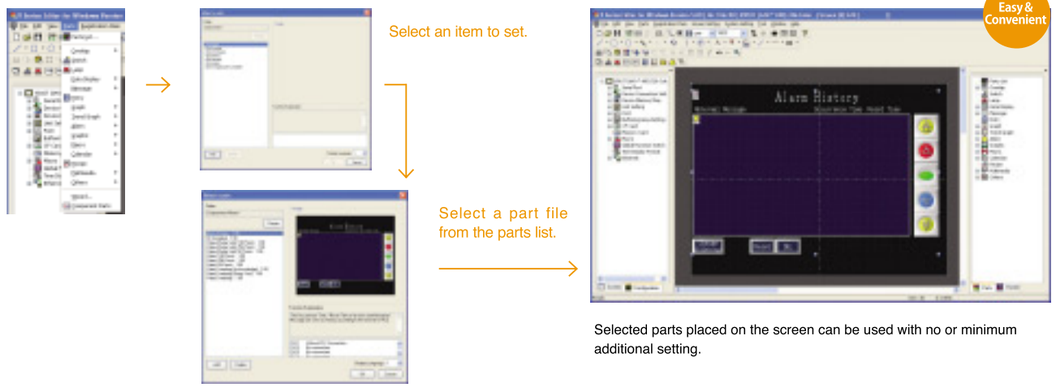
Convenient tool assists you in creating functional screens instantly.

Quick screen configuration using integrated "Component Parts"

Component Parts

First in Industry

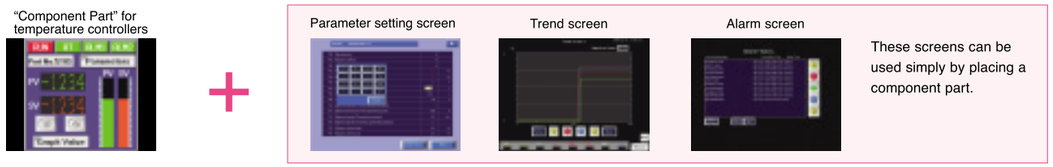
In "Component Parts," various functions and macros have been arranged according to purpose. You can create a functional screen instantly by simply selecting a "Component Parts" from the parts list and placing it on the screen.



Selected parts placed on the screen can be used with no or minimum additional setting.

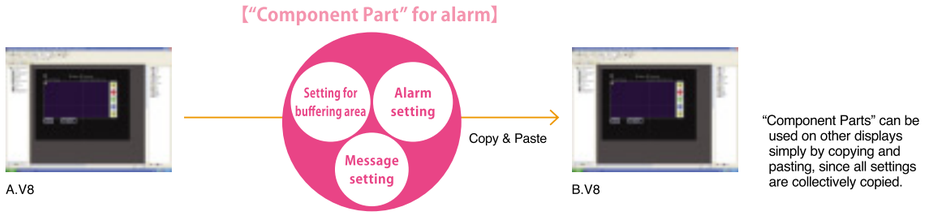
Point 1 Easy Screen Configuration

You can create multifunctional screens using integrated "Component Parts." When arranging on a screen that contains other messages or setting windows, a "Component Part" can be used regardless of overlapping of settings or windows.



Point 2 Easy Utilization of Resource

"Component Parts" contain all necessary settings for operation, so they don't need any additional settings when used on other displays. They can be reused simply by copying and pasting.



Point 3 Simple Setting View

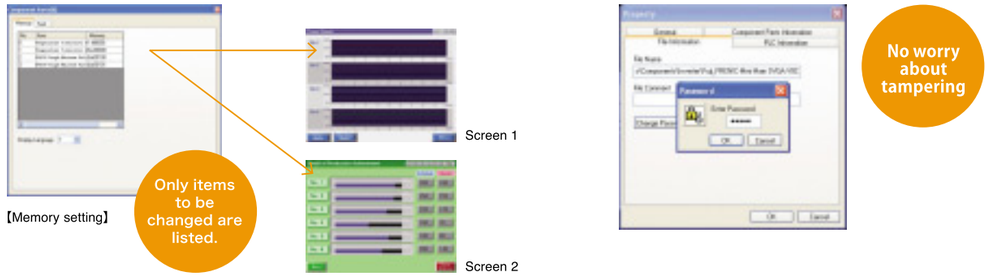
After placing "Component Parts," they can be easily used simply by setting addresses and texts.

Example of Setting View ("Component Part" for alarm history)



Point 4 Batch Change of Addresses/Texts

When the same address or text is used for multiple screens, all the settings can be changed simultaneously on the setting view simply by registering it in the address/text table of a "Component Part."



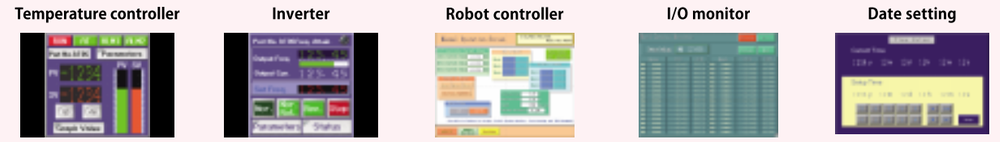
Point 5 Authorization by Passwords

Setting a password for a "Component Part" prevents the settings for the part from being changed by unauthorized persons. Customers can use a "Component Part" without having to worry about tampering of the setting.

Point 6 Various "Component Parts"

"Component Parts" with various functions are available. They can be selected from the parts list according to your purpose to configure displays promptly.

Examples of "Component Parts"



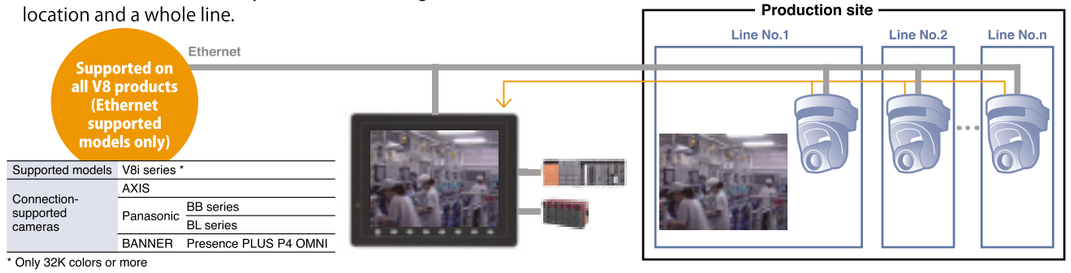
Ethernet expansion

Advanced feature based on Ethernet

Efficient line monitoring by network cameras

Network camera

Displays images from cameras connected to Ethernet on a V8 screen. You can efficiently achieve monitoring of a remote location and a whole line.



Supported models	V8i series *	
Connection-supported cameras	AXIS	
	Panasonic	BB series
		BL series
	BANNER	Presence PLUS P4 OMNI

* Only 32K colors or more

Cameras that support spinning and zooming functions can receive a command from MONITOUCH.

[1] Spinning of a camera (supported cameras only)

You can change the direction of a network camera from a remote location.



[2] Zooming of a camera (supported cameras only)

You can zoom in and out an image from a remote location.



Application software that connects your office with your production site at low cost.

TELLUS and V-Server

"Ability of Factory" is enhanced by the remote function and the data collection function.

In the environment with a V-Server installed PC, you can monitor and control your production site from a remote location, even if you are in a foreign country.

[TELLUS and V-Server]

Features such as data collection and data management functions are available for collecting information on the production site in real time to manage it with Excel/CSV files. Additionally, you can monitor and control TELLUS-HMI and MONITOUCH from a remote location.



(Example)Industrial PC

Expanded possibilities by working together with Windows applications.

1 Working with VB programs

By creating VB programs using TELLUS access function, you can access TELLUS. Complicated arithmetic processing are done by VB programs and the result is displayed on TELLUS.

2 Working with optional units

It can be smoothly connected to a Windows printer. You can easily print out daily reports, monthly reports, information on lines and machines operation. Additionally, you can use high-capacity storage and memory.

3 Working with database

By using TELLUS and V-Server, you can work together with database such as SQL Sever. Tabulation of production achievement and storing of data on the number of defected products and causes of failure can easily be done.

4 Working with MONITOUCH

You can monitor multiple MONITOUCH installed on the machines from a remote location. And you can also collect production data and change machine settings by the recipe function.

Ethernet expansion

Use Remote Desktop to make use of Windows applications

Enhanced maintenance capacity led by Windows applications

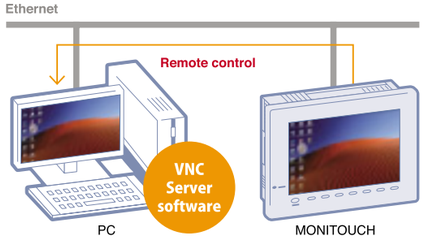
Remote Desktop *1

By connecting to Ethernet, the server PC's screen is displayed on the V8 screen. At a production site where no PC can be set, you can operate the functions of PC from V8.

Supported models	V815iX,V812iS,V810iS,V810iT,V808iS,V810iC, V808iC,V808iCH,V806iT,V806iC *2

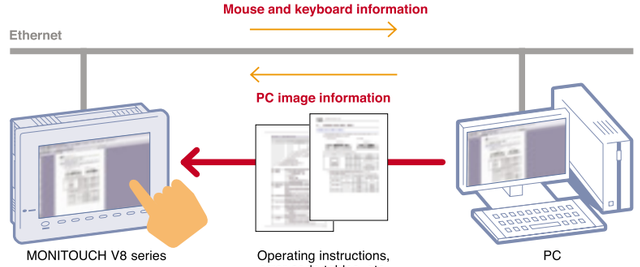
*1 A license is required.
*2 Only 32K colors or more and an analog switch specification.

By Ethernet connection, no optional unit is needed. Remote Desktop can be used easily at low cost.



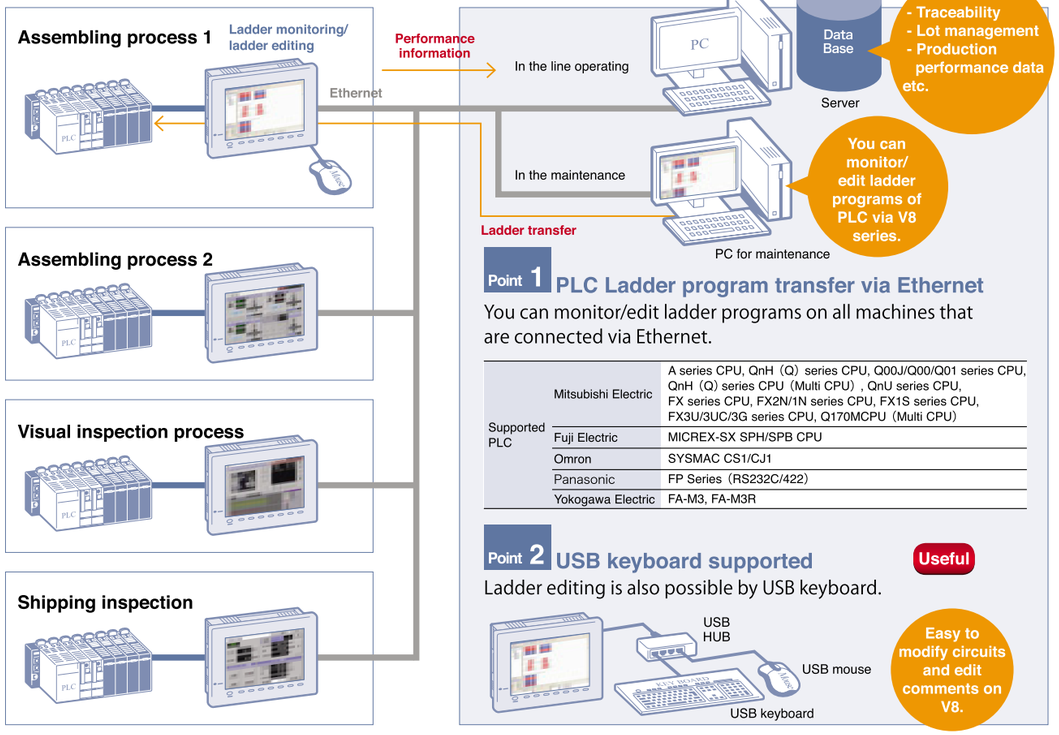
Application 1 Viewing operating instructions and manuals

By remote-controlling a PC connected via Ethernet from a V8 series, you can view operating instructions and manuals stored on the PC.



Application 2 Ladder monitoring/ ladder editing

The ladder transfer function allows you to monitor/edit the PLC ladder program on V8 by connecting a PC with the PLC via Ethernet.



Point 1 PLC Ladder program transfer via Ethernet

You can monitor/edit ladder programs on all machines that are connected via Ethernet.

Supported PLC	Mitsubishi Electric	A series CPU, QnH（Q）series CPU, Q00J/Q00/Q01 series CPU, QnH（Q）series CPU（Multi CPU）, QnU series CPU, FX series CPU, FX2N/1N series CPU, FX1S series CPU, FX3U/3UC/3G series CPU, Q170MCPU（Multi CPU）
	Fuji Electric	MICREX-SX SPH/SPB CPU
	Omron	SYSMAC CS1/CJ1
	Panasonic	FP Series（RS232C/422）
	Yokogawa Electric	FA-M3, FA-M3R

Point 2 USB keyboard supported

Useful

Ladder editing is also possible by USB keyboard.

Easy to modify circuits and edit comments on V8.

MES*

Supporting the construction of advanced MES

V8 networking promotes the integration of sales, production management and manufacturing at low cost.

Reinforcing your production management through connection to the database

MES* interface function

Data for production records, defect quantity, error causes and various kinds of information can be sent to the MES database server via V-Server in SQL. Communication with the database is possible without a gateway PC or complicated programming.

No Programming Required

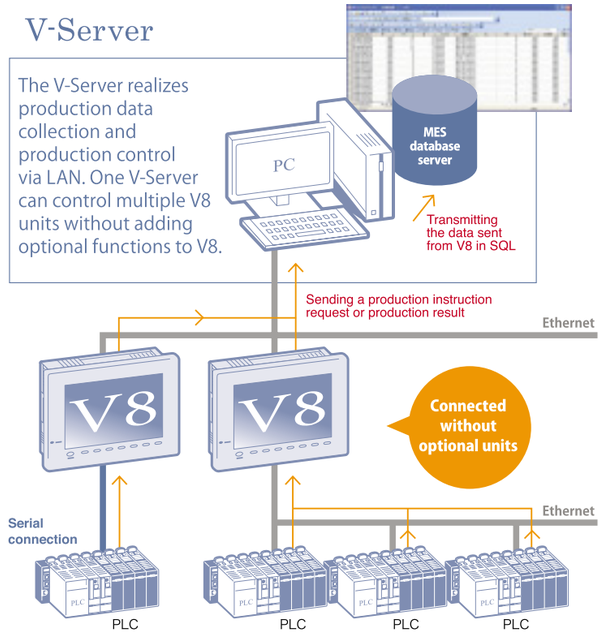
Data can be saved in the database server by simple setting on V-SFT — no programming is required.

Preventing data loss

All data transffered to the database is saved with the error log so that it is completely secure.

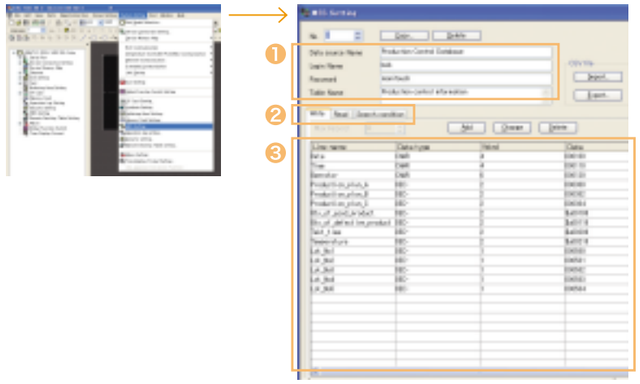
Decreasing system load

Data can be transferred to the database server when conditions are fulfilled. The server does not need to keep monitoring production, so the load on the system can be decreased.



* [MES]: The “Manufacturing Execution System” is for optimizing product quality, product quantity, delivery date, cost, etc. in the management/ control of production sites.

Easy MES setting!



Setting to access ODBC(❶)

- Set a data source name, login name and password of the database.

Setting of operation to access the database(❷)

- Three types (Writing, Loading, and Loading with search criteria) are supported:
  [Writing]
  Set contents to write to the database.
  [Loading]
  Set contents to load from the database.
  [Loading with search criteria]
  Set this when loading from the database with search criteria.

Setting of items to access ODBC (❸)

- Set column names and data format to access the database.

You can set PLC register or MONITOUCH internal memory as a data to write to or to load from as well.

【ODBC】 Open DataBase Connectivity
Standard specifications of software to access database, which is being advocated by Microsoft.

Specifications

High-end specifications open up new possibilities.

General Specifications

Item		V815		V812	
	Model	V815iX	V815iXD	V812xS	V812xSD
Power supply	Rated voltage	AC100 ~ 240V	DC24V	AC100 ~ 240V	DC24V
	Permissible range of voltage	AC100 ~ 240V+10%, -15%	DC24V±10%	AC100 ~ 240V+10%, -15%	DC24V±10%
	Permissible momentary power failure	Within 20ms	Within 1ms	Within 20ms	Within 1ms
	Demand (maximum rating)	90VA or less	40W or less	70VA or less	30W or less
	Inrush current	20A,10ms(AC100V) / 40A,10ms(AC200V)	30A,1ms(DC24V)	20A,10ms(AC100V) / 40A,10ms(AC200V)	30A,1ms *3
Insulation resistance		DC500V 10MΩ or more			
Physical environment	Ambient temperature	0℃ ~ +40℃ *1		0℃ ~ +50℃ *1	
	Storage temperature	-10℃ ~ +50℃ *1		-10℃ ~ +60℃	
	Ambient humidity	85%RH or less(without dew condensation, Max. wet bulb temperature: 39℃ or lower) *1			
	Resistance to solvent	No attachment of cutting oil or organic solvent			
	Atmosphere	Not exposed to corrosive gas or conductive dust			
	Operation altitude	2,000 meters or lower			
	Contamination level *2	Level 2			
Mechanical operating conditions	Resistance to oscillation	Vibration frequency: 10~150Hz, acceleration: 9.8m/s^2(1.0G) pulsating width: 0.075mm, X,Y,Z: 3 directions 1 hour each way			
	Resistance to shock	Pulse shape: half-sine, peak acceleration: 147m/s^2(15G), X,Y,Z: 3 directions, six times each way			
Electric operating conditions	Noise proof	1500Vp-p (pulse width 1μs, pulse rise time : 1ns)	1000Vp-p (pulse width 1μs, pulse rise time : 1ns)	1500Vp-p (pulse width 1μs, pulse rise time : 1ns)	
	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: Compatible with IP65 (when water-proof gasket is used.) Rear cover: Compatible with IP20 Form: Single unit Installation method: Panel mounting			
	Cooling system	Natural air cooling			
	Weight	Approx.5.5kg	Approx.5.3kg	Approx.2.9kg	
	Dimensions W×H×D(mm)	382.8×312.8×81.1		326.4×259.6×69.0	
	Panel cutout (mm)	369.4×299.4(+0.5/-0)		313.0×246.2(+0.5/-0)	
Case color		–		Gray	
Material		Aluminium		PC/ABS	

*1 Keep wet bulb temperature under 39℃ to avoid an accident.
*2 Contamination level is an index that shows the incidence rate of conductive substance. At Level 2, only nonconductive substance is produced, but a temporary conductive state may occur due to dew concentration.
*3 Hardware version: j or later

Performance Specifications

Item	Model	V815iX	V815iXD	V812iS	V812S
Display specifications	Screen memory	12.5MB			
	Display device	TFT color LCD			
	Resolution W:H(dots)	1024×768		800×600	
	Display size	15 inches		12.1 inches	
	Colors	65,536 colors (without blinks) / 32,768 colors (with blinks)			
	Backlight	LED			
	Backlight life *5	About 100,000 hours		About 70,000 hours	
	Backlight Auto OFF	Lit in normal (set by the user)			
	Power lamp	Lit in normal condition, blinks in alarm condition such as blowout of backlight bulbs			
	Contrast adjustment	Fixed			
	Brilliance control	3 levels (adjusted into 128 grades by macro command)			
Number of characters	1/2-byte	127 columns × 96 lines		100 columns × 75 lines	
	1-byte	127 columns × 48 lines		100 columns × 37 lines	
	2-byte	64 columns × 48 lines		50 columns × 37 lines	
Enlargement of characters		X: 1 ~ 8 times Y: 1 ~ 8 times			
Touch switch	Switch resolution	Analog: 1,024×1,024		Analog: 1,024×1,024 / Matrix: 50×30	Analog: 1,024×1,024
	Mechanical life	1 million times or more			
	Surface treatment	Hard coating, non glare finish 5%			
Function switch	Number of function switches	8 switches			
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*6 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			
	CF card interface	Compatible with CompactFlash™			
	Ethernet *4	Complies with IEEE802.3, Baud rate: 100Mbps, 10Mbps Cable: 100Ω Unsealed twist pair, Category 5, Max length: 100m			
	USB	Type A, Type B (Ver1.1)			
Clock & Back up memory	Battery	Coin-type lithium primary battery			
	Back up memory (SRAM)	512KB			
	Back up period	5 years (ambient temperature 25℃)			
	Calendar accuracy	Gap±90 sec. per month (ambient temperature 25℃)			

* 4 Standard equipment only for V8i series
* 5 Time until the panel surface luminance drops to 50% of its initial value at the ambient temperature (25°C)
* 6 Available only when connected with SIEMENS MPI.

Specifications

General Specifications

Item \ Model		V810				V808	
		V810xS / V810xT	V810xC	V810xSD / V810xTD	V810xCD	V808xSD	V808xCD
Power supply	Rated voltage	AC100 ~ 240V		DC24V		DC24V	
	Permissible range of voltage	AC100 ~ 240V+10%, -15%		DC24V±10%		DC24V±10%	
	Permissible momentary power failure	Within 20ms		Within 1ms		Within 1ms	
	Demand (maximum rating)	70VA or less	60VA or less	25W or less	20W or less	23W or less	20W or less
	Inrush current	20A,10ms(AC100V) 40A,10ms(AC200V)	16A,6ms(AC100V) 32A,7ms(AC200V)	30A,1ms (DC24V) *3	20A,1ms (DC24V)	30A,1ms(DC24V) *3	20A,1ms(DC24V)
Insulation resistance		DC500V 10MΩ or more					
Physical environment	Ambient temperature	0℃ ~ +50℃ *1					
	Storage temperature	-10℃ ~ +60℃					
	Ambient humidity	85%RH or less(without dew condensation, Max. wet bulb temperature: 39℃ or lower) *1					
	Resistance to solvent	No attachment of cutting oil or organic solvent					
	Atmosphere	Not exposed to corrosive gas or conductive dust					
	Operation altitude	2,000 meters or lower					
	Contamination level *2	Level 2					
Mechanical operating conditions	Resistance to oscillation	Vibration frequency: 10~150Hz, acceleration: 9.8m/s^2(1.0G) pulsating width: 0.075mm, X,Y,Z: 3 directions 1 hour each way					
	Resistance to shock	Pulse shape: half-sine, peak acceleration: 147m/s^2(15G), X,Y,Z: 3 directions, six times each way					
Electric operating conditions	Noise proof	1500Vp-p (pulse width 1μs, pulse rise time : 1ns)					
	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: Compatible with IP65 (when water-proof gasket is used.) Rear cover: Compatible with IP20 Form: Single unit Installation method: Panel mounting					
	Cooling system	Natural air cooling					
	Weight	Approx.2.5kg				Approx.1.5kg	
	Dimensions WxHxD(mm)	303.8×231.0×69.0				233.0×178.0×65.6	233.0×178.0×65.8
	Panel cutout (mm)	289.0×216.2(+0.5/-0)				220.5×165.5(+0.5/-0)	
Case color		Gray					
Material		PC/ABS					

*1 Keep wet bulb temperature under 39℃ to avoid an accident.
*2 Contamination level is an index that shows the incidence rate of conductive substance. At Level 2, only nonconductive substance is produced, but a temporary conductive state may occur due to dew concentration.
*3 Hardware version: j or later.

Performance Specifications

Item \ Model		V810iS	V810S	V810iT	V810T	V810iC	V810C	V808iS	V808S	V808iC	V808C
Display specifications	Screen memory	12.5MB					4.5MB	12.5MB			4.5MB
	Display device	TFT color LCD									
	Resolution W:H(dots)	800×600		640×480				800×600		640×480	
	Display size	10.4 inches						8.4 inches			
	Colors	65,536 colors (without blinks) / 32,768 colors (with blinks)									
	Backlight	LED									
	Backlight life *5	About 70,000 hours									
	Backlight Auto OFF	Lit in normal (set by the user)									
	Power lamp	Lit in normal condition, blinks in alarm condition such as blowout of backlight bulbs									
	Contrast adjustment	Fixed									
	Brilliance control	3 levels (Adjusted into 128 grades by macro command)									
Number of characters	1/2-byte	100 columns × 75 lines		80 columns × 60 lines				100 columns × 75 lines		80 columns × 60 lines	
	1-byte	100 columns × 37 lines		80 columns × 30 lines				100 columns × 37 lines		80 columns × 30 lines	
	2-byte	50 columns × 37 lines		40 columns × 30 lines				50 columns × 37 lines		40 columns × 30 lines	
Enlargement of characters		X: 1 ~ 8 times Y: 1 ~ 8 times									
Touch switch	Switch resolution	Analog: 1,024×1,024		Analog: 1,024×1,024 / Matrix: 40×24				Analog: 1,024×1,024			
	Mechanical life	1 million times or more									
	Surface treatment	Hard coating, non glare finish 5%									
Function switch	Number of function switches	8 switches									
External interface	D-Sub 9-pin (CN1) *6	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*6 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									
	CF card interface	Compatible with CompactFlash™									
	Ethernet *4	Complies with IEEE802.3 Baud rate: 100Mbps, 10Mbps, Cable: 100Ω Unsealed twist pair, Category 5, Max length: 100m									
	USB	Type A, Type B (Ver1.1)									
Clock & Back up memory	Battery	Coin-type lithium primary battery									
	Back up memory (SRAM)	512KB					128KB	512KB			128KB
	Back up period	5 years (ambient temperature 25℃)									
	Calendar accuracy	Gap±90 sec. per month (ambient temperature 25℃)									

* 4 Standard equipment only for V8i series
* 5 Time until the panel surface luminance drops to 50% of its initial value at the ambient temperature (25°C)
* 6 Available only when connected with SIEMENS MPI.

General Specifications

Item \ Model		V806	V808CH	
			V808iCHx	V808CHx
Power supply	Rated voltage	DC24V		
	Permissible range of voltage	DC24V±10%		
	Permissible momentary power failure	Within 1ms		
	Demand (maximum rating)	15W or less	10W or less	
	Inrush current	18A,2ms(DC24V)	15A,1.5ms(DC24V)	
Insulation resistance		DC500V 10MΩ or more		
Physical environment	Ambient temperature	0℃ ~ +50℃ *1	0℃ ~ +40℃ *1	
	Storage temperature	-10℃ ~ +60℃ *1		
	Ambient humidity	85%RH or less(without dew condensation, Max. wet bulb temperature: 39℃ or lower) *1		
	Resistance to solvent	No attachment of cutting oil or organic solvent		
	Atmosphere	Not exposed to corrosive gas or conductive dust		
	Operation altitude	2,000 meters or lower		
	Contamination level *2	Level 2		
Mechanical operating conditions	Resistance to oscillation	Vibration frequency: 10~150Hz, acceleration: 9.8m/s^2(1.0G) pulsating width: 0.075mm, X,Y,Z: 3 directions 1 hour each way		
	Resistance to shock	Pulse shape: half-sine, peak acceleration: 147m/s^2(15G), X,Y,Z: 3 directions, six times each way		
Electric operating conditions	Noise proof	1000Vp-p (pulse width 1μs, pulse rise time : 1ns)	1000Vp-p (pulse width 1μs, pulse rise time : 1ns)	
	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: Compatible with IP65 (when water-proof gasket is used.) Rear cover: Compatible with IP20 Form: Single unit Installation method: Panel mounting	IP65-compliant (when I/F cover, CF cover and LAN cover are used)	
	Cooling system	Natural air cooling		
	Weight	Approx.740g	Approx.1.2kg	
	Dimensions WxHxD (mm)	182.5×138.8×50.8	259.0×232.0×55.0 (excluding the emergency stop switch)	
	Panel cutout (mm)	174×131(+0.5/-0)		
Case color		Gray	Black	
Material		PC/ABS		

*1 Keep wet bulb temperature under 39℃ to avoid an accident.
*2 Contamination level is an index that shows the incidence rate of conductive substance. At Level 2, only nonconductive substance is produced, but a temporary conductive state may occur due to dew concentration.

Performance Specifications

Item \ Model		V806iT	V806T	V806iC	V806C	V806iM	V806M	V808iCHx	V808CHx
Display specifications	Screen memory	4.5MB						12.5MB	4.5MB
	Display device	TFT color LCD				TFT monochrome LCD		TFT color LCD	
	Resolution W:H(dots)	320×240						640×480	
	Display size	5.7 inches						7.5 inches	
	Colors	65,536 colors (without blinks) / 32,768 colors (with blinks)				16 grayscale (with blinks)		65,536 colors (without blinks) / 32,768 colors (with blinks)	
	Backlight	LED						CCFL	
	Backlight life *4	About 70,000 hours						About 50,000 hours	
	Backlight Auto OFF	Lit in normal (set by the user)							
	Power lamp	Lit in normal condition, blinks in alarm condition such as blowout of backlight bulbs							
	Contrast adjustment	Fixed	Adjustable (Function switch or macro switch)					Fixed	
	Brilliance control	3 levels (adjusted into 128 grades by macro command)	Fixed						
Number of characters	1/2-byte	40 columns × 30 lines						80 columns × 60 lines	
	1-byte	40 columns × 15 lines						80 columns × 30 lines	
	2-byte	20 columns × 15 lines						40 columns × 30 lines	
Enlargement of characters		X: 1 ~ 8 times Y: 1 ~ 8 times							
Touch switch	Switch resolution	Analog: 1,024×1,024							
	Mechanical life	1 million times or more							
	Surface treatment	Hard coating, non glare finish 5%							
Function switch	Number of function switches	6 switches						12 switches (4 switches: external output)	
External interface	D-Sub 9-pin (CN1) *6 TB3 for V808iCHx/ V808CHx	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 bps						RS-232C, 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	
	Modular 8-pin (MJ1/ MJ2) *7 TB2 for V808iCHx/ V808CHx	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, 115200,187500*5 bps						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	
	CF card interface	Optional unit DU-10						Compatible with CompactFlash™	
	Ethernet *3	Complies with IEEE802.3 Baud rate: 100Mbps, 10Mbps Cable: 100Ω Unsealed twist pair, Category 5, Max length: 100m						Complies with IEEE802.3	Not available
	USB	Type A, Type B (Ver1.1)						Type B (Ver1.1)	
Clock & Back up memory	Battery	Coin-type lithium primary battery							
	Back up memory (SRAM)	512KB	128KB	512KB	128KB	512KB	128KB	512KB	128KB
	Back up period	5 years (ambient temperature 25℃)							
	Calendar accuracy	Gap±90 sec. per month (ambient temperature 25℃)							

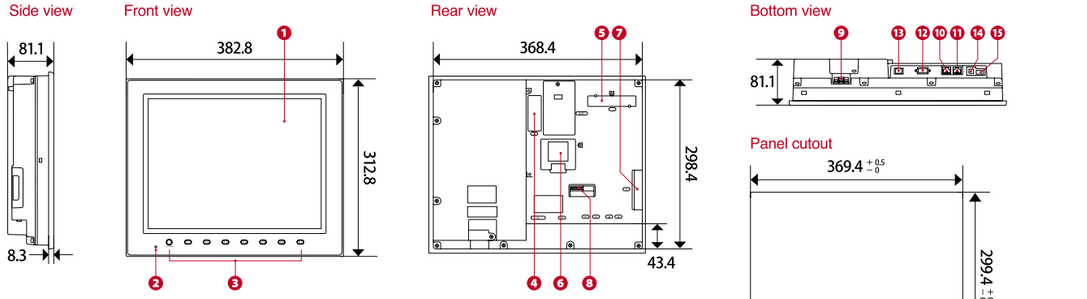
* 3 Standard equipment only for V8i series
* 4 Time until the panel surface luminance drops to 50% of its initial value at the ambient temperature (25°C)
* 5 Available only when connected with SIEMENS MPI.
* 6 Available only when an option unit [DU-10] is used for V806
* 7 MJ2 of the V806 series is available for the RS-422 (4-wire)

Dimensions and Part Names

Provided with plentiful kinds of interfaces

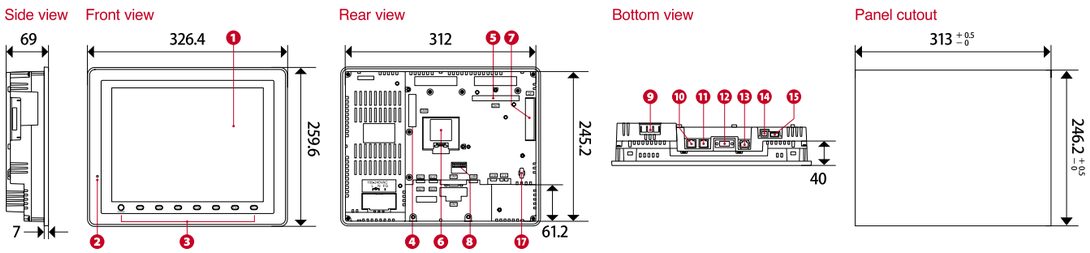
(mm)

V815iX / V815iXD



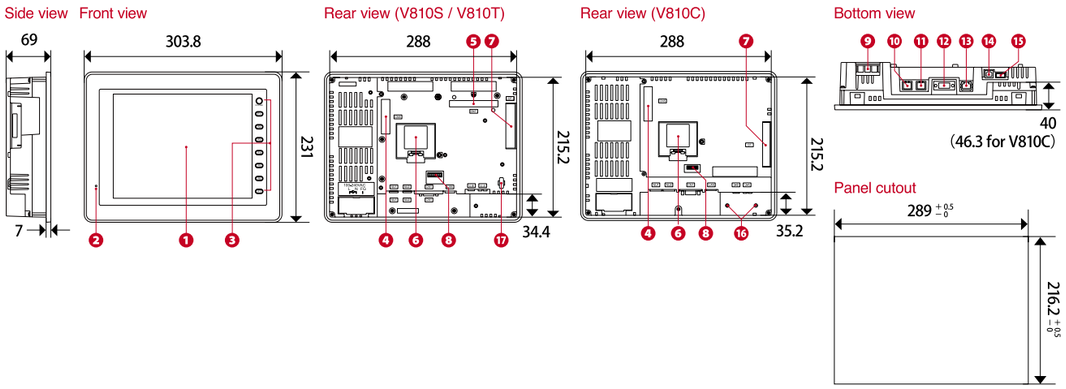
(mm)

V812iS / V812S



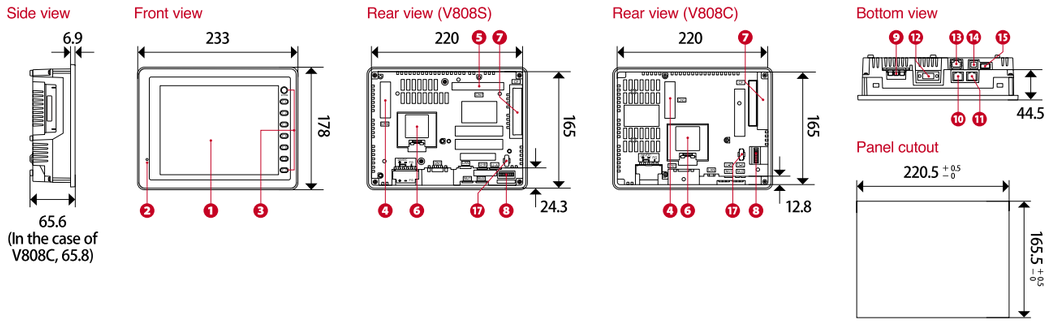
(mm)

V810iS / V810S / V810iT / V810T / V810iC / V810C



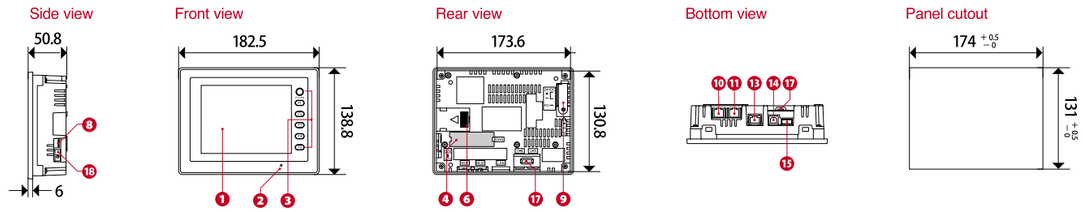
(mm)

V808iS / V808S / V808iC / V808C



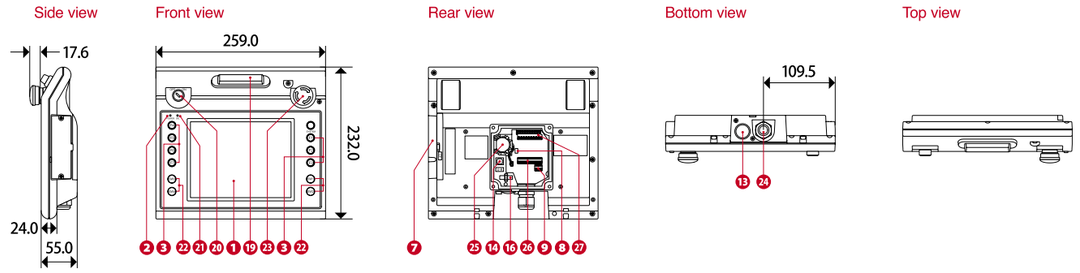
(mm)

V806iT / V806T / V806iC / V806C / V806iM / V806M



(mm)

V808iCH / V808CH



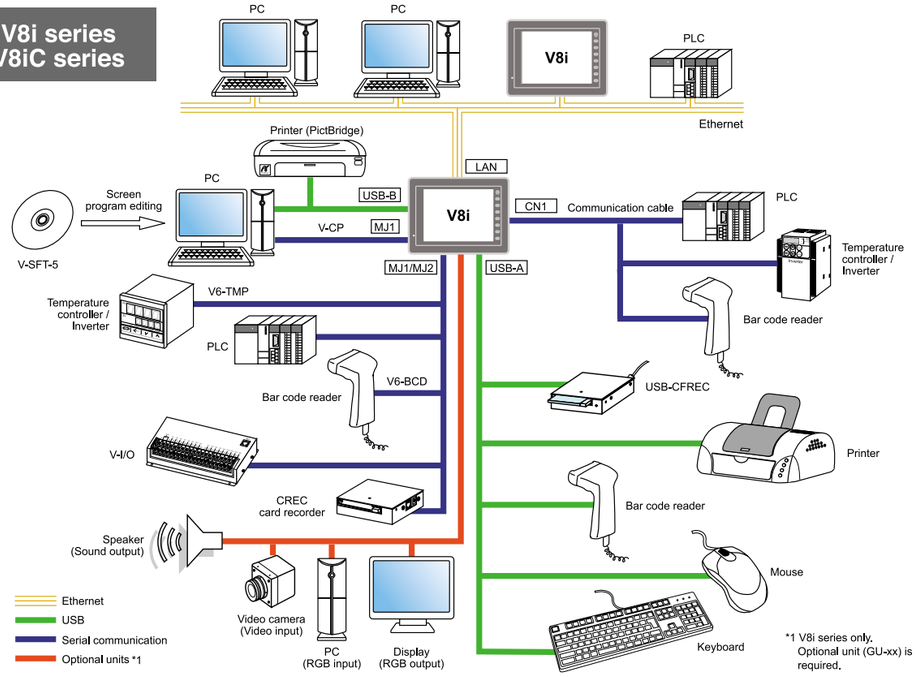
Part Names

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

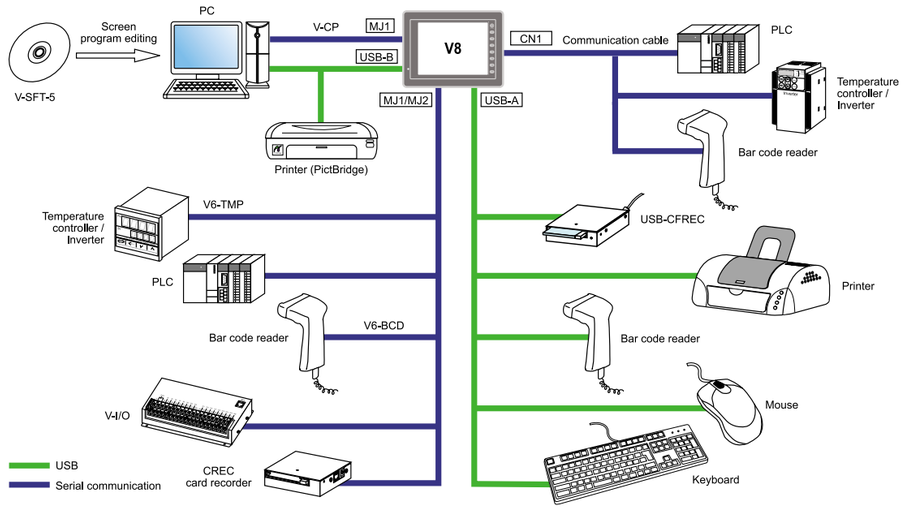
System Configuration

Flexible system configuration meets diversified requirements

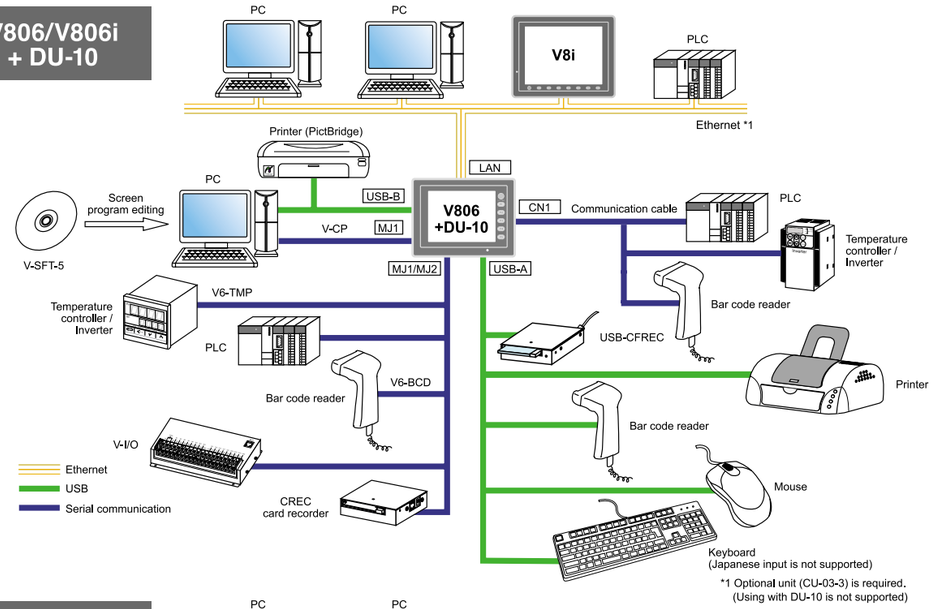
V8i series V8iC series



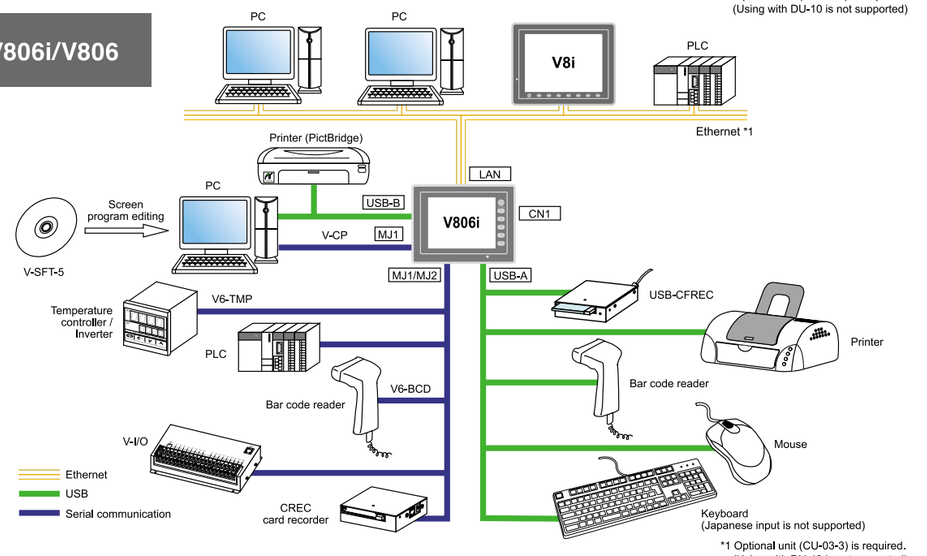
V8 series V8C series



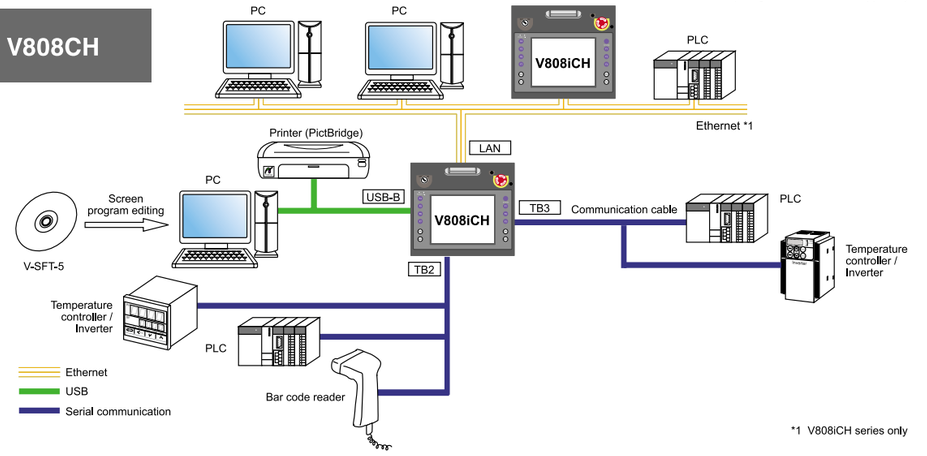
V806/V806i + DU-10



V806i/V806



V808CH



Option Units

Optional units that expand V8's performance

Various units for greater expandability and usability

Expansion/ Communication Units

Expansion units



GU-00(Video input + sound output unit)
Displays images from a video camera on V8 and outputs sound files through external speakers.

GU-01(RGB input + sound output unit)
Displays PC images on V8 and outputs sound files through external speakers.

GU-02(RGB output + sound output unit)
Displays images of V8 on PC display and outputs sound files through external speakers.

GU-03(Sound output unit)
Outputs sound files through external speakers.

GU-10(Video input(2ch) + RGB input)
Displays images from video cameras and PC images on V8 simultaneously.

GU-11(RGB input(2ch))
Displays RGB images such as PC images through two channels on V8 simultaneously.

DU-10(V806)
Compatible with a D-Sub9-pin/CF card.

Communication units



XX	Compatible network	XX	Compatible network
00	OPCN-1	04	PROFIBUS-DP
01	T-Link	06	SX bus
02-2	CC-Link	07	DeviceNet
03-3	Ethernet	08	FL-net

Connected to various networks. Multiple V8 panels can be connected to one PLC. Other devices can be linked to the network, improving system's cost-effectiveness.

Optional units



USB-CFREC (USB ports for CF card recorder)
Used for recording or reading data onto or from a CF card. Fitted on the front of the panel.



TC-D9 (Terminal converter)
Connects V8 with other units via RS-422/485 terminal.



CREC (Card recorder)
Used for recording data onto a card for back-up. Also used for recording data by memory manager or data logging functions.



V-MDD (ACPU/QnACPU/FXCPU dual port interface)
Used to double the port of the connector for programmer units. Useful when connecting to ACPU/QnACPU/FXCPU(MITSUBISHI) directly.

Application Software

Configuration software

V-SFT-5(Ver.5)
For Windows 98SE/ Me/ NT Version 4.0/ 2000/ XP/ XP 64 edition/ Vista 32bit/ Vista 64bit/Win7 32bit/Win7 64bit



Cables

Type	Configuration	Connected to
V-CP	RS-232C Modular 8-pin — D-Sub 9-pin Length: 3 m	PC
V6-BCD	RS-232C Modular 8-pin Length: 3 m	Bar code reader
V6-MLT	RS-485 Modular 8-pin Length: 3 m	MONITOUCH V8/V7/V6 series
V6-TMP	RS-232C/485 Modular 8-pin Length: 3, 5 or 10 m	Temperature controller and inverter etc.
UA-FR	1000 ± 50 Length: 1 m	USB-CFREC Card reader/ writer
UB-FR	1000 ± 50 Length: 1 m	PC PictBridge printer



V7-BT (Battery)
Lithium battery for V8 series



V8xx-GS/V8xx-GSN10
Protection sheet for panels: 5 sheets per set.
N10 is a non-glare type sheet.
See P37 for details.



V8xxx-FL/V715-FL
Backlight for V8(CCFL (Hardware version: a~q))
See P37 for details.



Panel Adapter (PAD-Vxxx)
Used when fitting V8 into V6/V4/GD-80/GD-65/ GD-64 panel cutout.

Option List

Optional units that expand V8's performance

Model	Description	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	Configuration software for V series (CD+Japanese manual set) ver.5	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
V-SFT-5(CD)	Configuration software for V series (Installation CD) 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, audio output	○	○		○		○				○											
GU-01	RGB 1ch input, audio output	○	○		○		○				○											
GU-02	RGB 1ch output, audio output	○	○		○		○				○											
GU-03	Audio output	○	○		○		○				○											
GU-10	VIDEO 2ch input, RGB 1ch input	○	○		○		○				○											
GU-11	RGB 2ch input	○	○		○		○				○											
DU-10	Optional unit dedicated to V806 (Dsub9+CF card)																○	○	○	○	○	○
Cable																						
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 connecting cable (3,5,10M)	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○	○	○	○	○
MJ-D25	MJ-Dsub25 conversion cable	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○	○	○	○	○
MJ2-PLC	MJ2-Dsub25 conversion cable for V806 and V706	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○	○	○	○	○
D9-MB-CPUQ	Mitsubishi Electric A series/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	Fuji Electric SPH CPU RS-485 (4-wire) (2,3,5M)	○	○	○	○	○	○	○	○	○	○	○	○	○			○*1	○*1	○*1	○*1	○*1	○*1
D9-FU-SPBCPU	Fuji Electric SPB CPU RS-485 (4-wire) (2,3,5M)	○	○	○	○	○	○	○	○	○	○	○	○	○			○*1	○*1	○*1	○*1	○*1	○*1
V706-ACPU	Mitsubishi Electric A series/QnA series CPU RS-422 (2,3,5,10,15M)																○*2	○*2	○*2	○*2	○*2	○*2
MJ2-MI4FX	Mitsubishi Electric FX series CPU RS-422 (2,3,5M)																○	○	○	○	○	○
MJ2-FU-SPHCPU	Fuji Electric SPH CPU RS-485 (4-wire) (2,3,5M)																○	○	○	○	○	○
MJ2-FU-SPBCPU	Fuji Electric SPB CPU RS-485 (4-wire) (2,3,5M)																○	○	○	○	○	○
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	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○	○	○	○	○
Dual port interface																						
V-MDD	Mitsubishi ACPU/QnACPU/FXCPU port interface	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I/O unit																						
V-I/O	Expanded serial I/O unit	○	○	○	○	○	○	○	○	○	○	○	○	○			○	○	○	○	○	○
Battery																						
V7-BT	Battery for V8, V7 and V606e	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Switch guard cover																						
V8H-SWG	Switch guard for the 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 the V808CH														○	○						
Protection sheet																						
V806-GS	Surface protection sheet for V806																○	○	○	○	○	○
V806-GSN10	Surface protection sheet for V806 (nonglare)																○	○	○	○	○	○
V608CH-GSN10	Surface protection sheet for the V808CH/V608CH (nonglare)														○	○						
V808-GS	Surface protection sheet for V808										○	○	○	○								
V808-GSN10	Surface protection sheet for V808 (nonglare)										○	○	○	○								
V810-GS	Surface protection sheet for V810				○	○	○	○	○	○												
V810-GSN10	Surface protection sheet for V810 (nonglare)				○	○	○	○	○	○												
V812-GS	Surface protection sheet for V812		○	○																		
V812-GSN10	Surface protection sheet for V812 (nonglare)		○	○																		
V715-GS	Surface protection sheet for V815/V715	○																				
V715-GSN10	Surface protection sheet for V815/V715 (nonglare)	○																				
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 The optional unit: DU-10 is required.
*2 Used both MJ1/MJ2 ports.
*3 CCFL (Hardware version: a~q only)

Products
Display/ Operation Features
Communication Features
Expandability
Usability
Configuration Software (V-SFT)
Component Parts
Expandability with MES/ Ethernet
Specifications
Dimensions and Part Names
System Configuration
Option
Option List
Customer Service
Product Warranty

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Product Warranty

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.