

Hardware Specifications

MONITOUCH V808CH



Record of Revisions

Reference numbers are shown at the bottom left corner on the back cover of each manual.

Printing Date	Reference No.	Revised Contents
January, 2009	2019NE0	First edition

Preface

Thank you for selecting the V808CH.

For correct set-up of the V808CH, you are requested to read through this manual to understand more about the product.

The manuals shown below are related manuals for the V808CH. Refer to them as necessary.

Manual Name	Contents	Reference No.
V8 Series Reference Manual	The functions and instructions of the V8 series are explained.	1055NE
V Series Macro Reference	An overview of macros as well as macro editor operations and macro command descriptions are explained in detail.	1056NE
V8 Series Introductory Manual	The basic operating procedure of V-SFT version 5 is explained in detail.	1057NE
V8 Series Operation Manual	The information related to the operations of V-SFT version 5, such as software composition, editing procedure or limitations, is explained in detail.	1058NE
V8 Series Reference: Additional Functions	The additional functions and instructions of the V8 series for the V-SFT version 5.1.0.0 and later are explained.	1060NE
V8 Series Connection Manual	The connection and communication parameters for the V8 series and controllers are explained in detail.	2201NE
V Series DLL Function Specifications	An overview and contents of DLL files used for Ethernet (HKEtn20.DLL) and CF card (VCFAcs.DLL) are explained in detail.	1059NE

For further details about controllers (PLCs, temperature controllers, etc.), refer to the manual issued by each controller manufacturer.

Notes:

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5. If the specifications of the software do not correspond with the contents of this manual, the software specifications have priority.

Notes on Safe Usage of MONITOUCH

In this manual, you will find various notes categorized under the following levels with the signal words "DANGER", and "CAUTION".



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and could cause property damage.

Note that there is a possibility that the item listed with  CAUTION may have serious ramifications.



DANGER

- Never use the output signal of the V808CH for operations that may threaten human life or damage the system, such as signals used in case of emergency. Please design the system so that it can cope with the malfunctions of a touch switch. A malfunction of a touch switch will result in machine accident or damage.
- Turn off the power supply when you set up the unit, connect new cables or perform maintenance or inspections. Otherwise, electrical shock or damage may occur.
- Never touch any terminals while the power is on. Otherwise, electric shock may occur.
- The liquid crystal in the LCD panel is a hazardous substance. If the LCD panel is damaged, do not ingest the leaked liquid crystal. If the liquid crystal spills on skin or clothing, use soap and wash off thoroughly.
- Never disassemble, recharge, deform by pressure, short-circuit, reverse the polarity of the lithium battery, nor dispose of the lithium battery in fire. Failure to follow these conditions will lead to explosion or ignition.
- Never use a lithium battery that is deformed, leaks, or shows any other signs of abnormality. Failure to follow these conditions will lead to explosion or ignition.
- The power lamp flashes when the backlight is at the end of life or is faulty. However, the switches on the screen are operable at this time. Do not touch the screen when the screen becomes dark and the power lamp flashes. Otherwise, a malfunction may occur and result in machine accident or damage.
- Be sure to connect emergency stop switches or 3-position switches to the safety circuit. Do not employ any emergency stop circuit with only programmable controllers. Otherwise, a serious accident may occur. Configure the system so that it will function under the conditions defined as category 0 or 1 in compliance with IEC/EN60204-1.
When using emergency stop switches, secure (connect) the cable to the connected device to avoid inadvertent disconnection.
- When connecting safety-related devices or components to MONITOUCH, use appropriate products according to the required safety level or category.
Conformity assessment to the safety level or category must be made throughout the entire system. Safety requirements are defined in standards or guidelines particular for each country. For conformity assessment to safety standards or safety category, consult your appropriately authorized third-party organization.

CAUTION

- Check the appearance of the unit when it is unpacked. Do not use the unit if any damage or deformation is found. Failure to do so may lead to fire, damage or malfunction.
- For use in a facility or for a system related to nuclear energy, aerospace, medical, traffic equipment, or mobile installations, please consult your local distributor.
- Operate (or store) MONITOUCH under the conditions indicated in this manual and related manuals. Failure to do so could cause fire, malfunction, physical damage or deterioration.
- Understand the following environmental limits for use and storage of MONITOUCH. Otherwise, fire or damage to the unit may result.
 - Avoid locations where there is a possibility that water, corrosive gas, flammable gas, solvents, grinding fluids or cutting oil can come into contact with the unit.
 - Avoid high temperature, high humidity, and outside weather conditions, such as wind, rain or direct sunlight.
 - Avoid locations where excessive dust, salt, and metallic particles are present.
 - Avoid installing the unit in a location where vibration or physical shock may be transmitted.
- Equipment must be correctly mounted so that the main terminal of MONITOUCH will not be touched inadvertently. Otherwise, an accident or electric shock may occur.
- Tighten terminal screws on the power supply terminal block equally to the specified torque. Improper tightening of screws may result in fire, malfunction, or other serious trouble.
- MONITOUCH has a glass screen. Do not drop or give physical shock to the unit. Otherwise, the screen may be damaged.
- Connect the cables correctly to the terminals of MONITOUCH in accordance with the specified voltage and wattage. Over-voltage, over-wattage, or incorrect cable connection could cause fire, malfunction or damage to the unit.
- Be sure to establish a ground of MONITOUCH. Ground FG terminal which must be used for the unit. Otherwise, electric shock or a fire may occur.
- Prevent any conductive particles from entering into MONITOUCH. Failure to do so may lead to fire, damage, or malfunction.
- Do not attempt to repair MONITOUCH at your site. Ask Hakko Electronics or the designated contractor for repair.
- Do not repair, disassemble or modify MONITOUCH. Hakko Electronics Co., Ltd. is not responsible for any damages resulting from repair, disassembly or modification of MONITOUCH that was performed by an unauthorized person.
- Do not use a sharp-pointed tool when pressing a touch switch. Doing so may damage the display unit.
- Only experts are authorized to set up the unit, connect the cables or perform maintenance and inspection.
- Lithium batteries contain combustible material such as lithium or organic solvent. Mishandling may cause heat, explosion or ignition resulting in fire or injury. Read related manuals carefully and handle the lithium battery correctly as instructed.
- Do not press two or more positions on the screen at the same time. If two or more positions are pressed at the same time, the switch located between the pressed positions will be activated.
- Take safety precautions during such operations as setting change during running, forced output, start, and stop. Any misoperation may cause unexpected machine motions, resulting in machine accident or damage.
- In facilities where a failure of MONITOUCH could lead to accident threatening human life or other serious damage, be sure that the facilities are equipped with adequate safeguards.
- At the time of disposal, MONITOUCH must be treated as industrial waste.
- Before touching MONITOUCH, discharge static electricity from your body by touching grounded metal. Excessive static electricity may cause malfunction or trouble.
- Insert the CF card into MONITOUCH in the correct orientation. Failure to do so may damage the CF card or the socket of the unit.
- The LED lamp on the CF card interface cover illuminates in red when the power is supplied to the CF card. Never remove the CF card or turn off the power of MONITOUCH while the LED lamp is lit. Doing so may destroy the data on the CF card. Check that the LED lamp has gone off before removing the CF card or turning off the power of MONITOUCH.

[General Notes]

- Never bundle control cables nor input/output cables with high-voltage and large-current carrying cables such as power supply cables. Keep these cables at least 200 mm away from the high-voltage and large-current carrying cables. Otherwise, malfunction may occur due to noise.
- When using MONITOUCH in an environment where a source of high-frequency noise is present, it is recommended that the FG shielded cable (communication cable) be grounded at its ends. However, the cable may be grounded only at one end if this is necessary due to unstable communication conditions or for any other reason.
- Plug terminal blocks or sockets of MONITOUCH in the correct orientation. Failure to do so may lead to damage or malfunction.
- Do not use thinners for cleaning because they may discolor the MONITOUCH surface. Use alcohol or benzine commercially available.
- If a data receive error occurs when MONITOUCH and the counterpart (PLC, temperature controller, etc.) are started at the same time, read the manual for the counterpart unit and remove the error correctly.
- Avoid prolonged display of any fixed pattern. Due to the characteristics of the liquid crystal display, an afterimage may occur. If a prolonged display of a fixed pattern is expected, use the auto OFF function of the backlight.

[Notes on LCD]

Note that the following conditions may occur under normal circumstances.

- The response time, brightness and colors of MONITOUCH may be affected by the ambient temperature.
- Tiny spots (dark or luminescent) may appear on the display due to the liquid crystal characteristics.
- There are variations in brightness and colors on each unit.
- Cold cathode tubes are incorporated into the LCD display for backlights. Optical properties (brightness, irregular colors, etc.) may change in a low-temperature environment or over time of operation.

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1 **Product Outline**

1. Features
2. Models and Peripheral Equipment
3. System Composition

1. Features

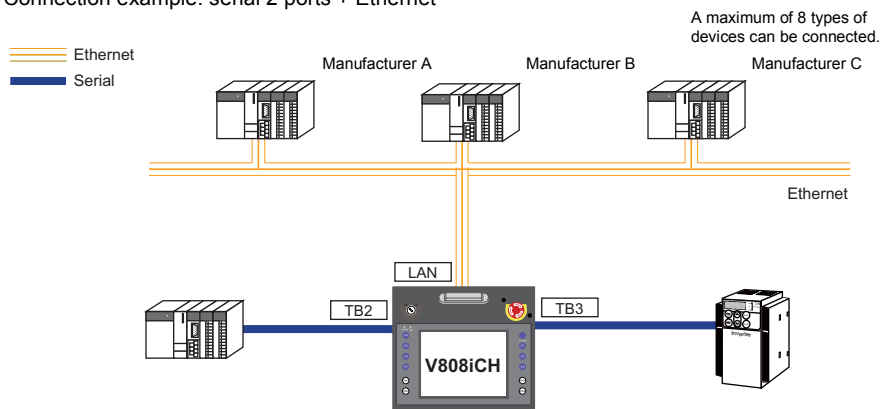
The V808CH series inherits the features of the V608CH and features the following:

1. 8-way communication (V808iCH only)

A maximum of eight devices, such as PLCs or peripheral equipment, of different models and manufacturers can be connected to one V808CH unit over a network in combination with Ethernet (max. 8 protocols) and serial communications (max. 2 protocols).

A V808CH unit can communicate with eight types of devices at one time and can exchange data among the connected devices.

Connection example: serial 2 ports + Ethernet



2. 65536-color display

A high-definition display of 65,536 colors (without blinking; 32,768 colors with blinking) is possible. Photographs (JPEG) or illustrations (bitmap) are displayed as close to real images. An operator can view operating conditions easily because of the increased viewability.

3. Stroke font

Unlike standard bitmap fonts, the font size can be adjusted as desired regardless of the display resolution. Quality expression is possible.

4. Selectable in 16 languages

A language is selectable from a maximum of 16 languages during operation in RUN mode. You do not need to repeat screen data transfer.

5. Screen creation processes reduced with use of "component parts"

A "component part" is a part which consists of multiple components having different functions or different macro programs.

Screen data with advanced functions can be created quickly and easily.

6. PictBridge-compatible printer available

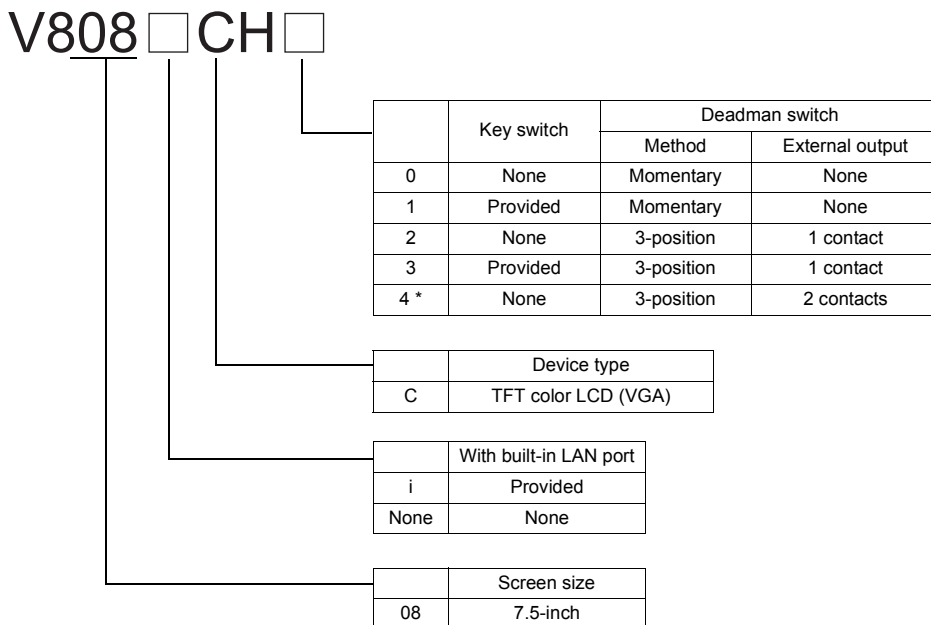
A PictBridge-compatible printer can be connected.

Simple printing using a USB cable is possible.

2. Models and Peripheral Equipment

MONITOUCH Models

The model name consists of the following information.



* Operation is normally enabled on the V808CH unit, regardless of the editor setting.

The series consists of the following models:

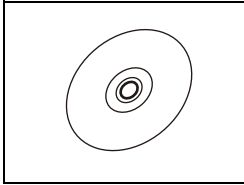
Analog resistance film type

Series	Model	Specifications	Remarks
V808CH series 7.5-inch	V808CH0	TFT color, 640 × 480 dots, standard type, DC power supply, without LAN port	CE approved
	V808CH1		
	V808CH2		
	V808CH3		
	V808CH4		
	V808iCH0	TFT color, 640 × 480 dots, standard type, DC power supply, with LAN port	
	V808iCH1		
	V808iCH2		
	V808iCH3		
	V808iCH4		

Peripheral Equipment

The following devices are available as options for the V808CH series.

Drawing Tool

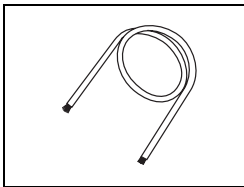


V-SFT-5 (configuration software: English version)

Application software for editing screen data for MONITOUCH.

(Windows 98SE/NT4.0/Me/2000/XP/XP 64 Edition/Vista 32-bit compatible)

Cables



V8H-C (external connection cable)

Cable used to connect a V808CH unit with a controller or for power supply

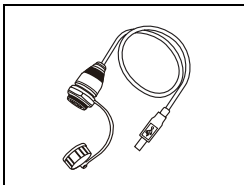
The side of the cable connected to V808CH is a ferrule, and the other side is a loose wire.

V8H-C3: 3 m

V8H-C5: 5 m

V8H-C15: 15 m

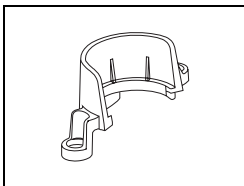
V8H-C20: 20 m (not usable for RS-232C connection)



UB-FR (for USB-B port) 1 m

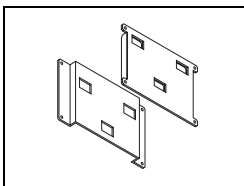
Cable used for USB-B (slave), which allows connection from the front of the control cabinet.

Other Options



V8H-SWG (switch guard)

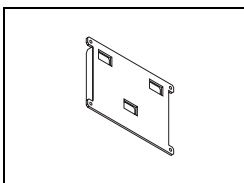
Protective cover for the emergency stop switch



V6H-WF (wall-mount set)

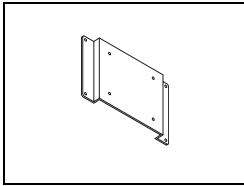
Mounts used for wall hanging

A set consists of two pieces, attached to a V808CH unit and a wall respectively.

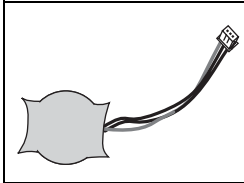


V6H-WF1 (wall-mount attached to a wall)

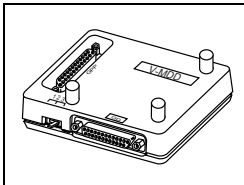
One wall-mount attached to a wall for hanging a unit.

**V8H-WFV (fixture)**

Fixture used for securing a unit to a wall or a commercially available arm VESA-compliant

**V7-BT (replacement battery)**

Replacement lithium battery for the V8 series, V7 series and V606e.

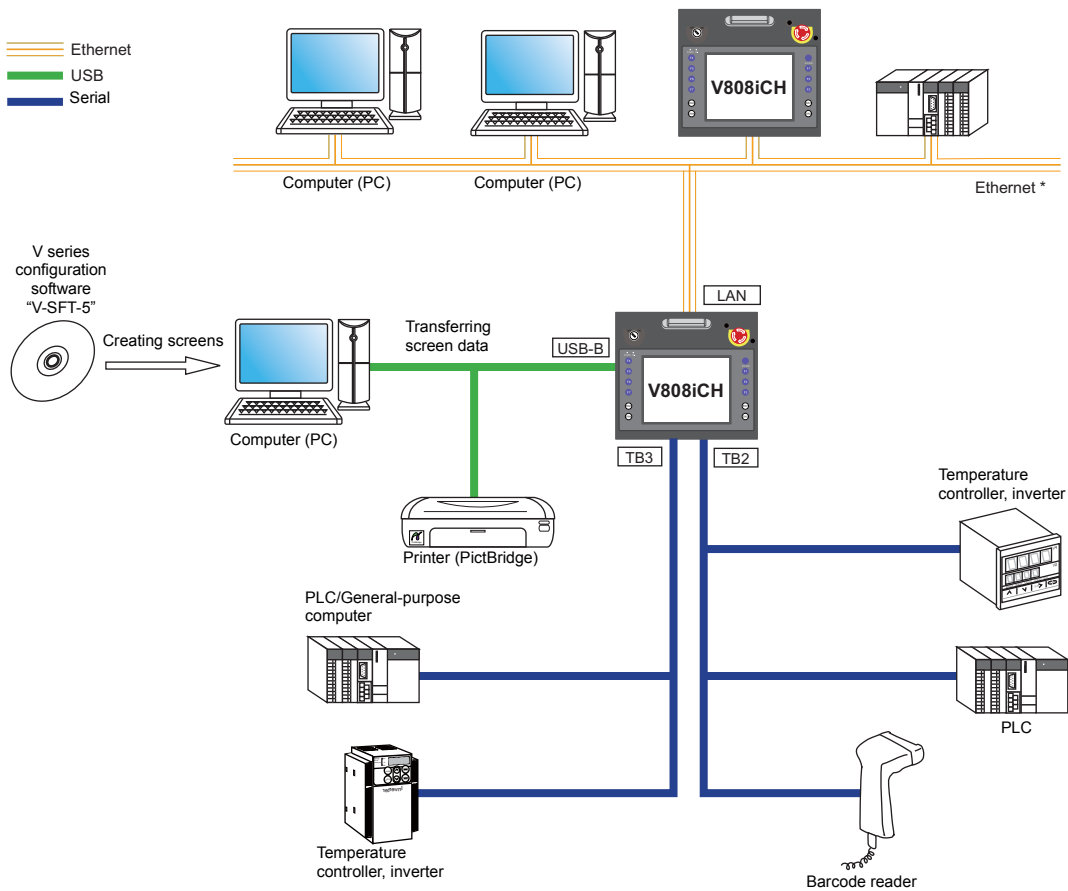
**V-MDD (ACPU/QnACPU/FXCPU dual port interface)**

Add-on connector with two ports, specifically designed for the connector on the MITSUBISHI's ACPU/QnACPU/FXCPU programmer. Operations can be improved when directly connecting a V808CH unit to the ACPU/QnACPU/FXCPU programmer.

3. System Composition

System Composition of V808iCH/V808CH

The following illustration shows possible system configurations using the V808iCH/V808CH.



* Only V808iCH is capable of Ethernet communication.

MEMO

Please use this page freely.

2 Specifications

1. Specifications
2. External View
3. Names and Functions of Components
4. Terminal Blocks
5. USB-B (USB Slave Port)
6. LAN Connector (LAN)
7. CF Card

1. Specifications

General Specifications

Item		Specifications
Standards	CE Marking	EN61000-6-2 EN61000-6-4
	Power Supply	
	Permissible Range of Voltage	24 VDC $\pm$ 10% *1
	Permissible Momentary Power Failure	For 24 VDC: Within 1 ms
	Power Consumption (Max. Rating)	10 W or less
	Rush Current	15 A, 1.5 ms or less (24 VDC input)
	Withstand Voltage	DC external terminals to FG: 500 VAC, 1 min.
Insulation Resistance		500 VDC, 10 M Ω or above
Physical Environment	Operational Ambient Temperature	0°C to +40°C *2
	Storage Ambient Temperature	-10°C to +60°C *2
	Operational Ambient Humidity	85% RH or less (without dew condensation)*2
	Storage Ambient Humidity	85% RH or less (without dew condensation)*2
	Altitude	2000 m or less
	Atmosphere	No corrosive gas, no excessive dust, and no conductive dust
	Contamination Level*3	Contamination level: 2
Mechanical Working Conditions	Vibration Resistance	Vibration frequency: 10 to 150 Hz, acceleration: 9.8 m/s ² (1.0 G), half-amplitude: 0.075 mm, X, Y, Z: 3 directions for one hour
	Shock Resistance	Pulse shape: sine half wave, peak acceleration: 147 m/s ² (15 G), X, Y, Z: 3 directions, six times each
Electrical Working Conditions	Noise Resistance	Noise voltage: 1000 Vp-p, pulse width: 1 μ s, rising time: 1 ns (Measured by a noise simulator)
	Static Electricity Discharge Resistance	Compliant with IEC61000-4-2, contact: 6 kV, air: 8 kV
Installation Conditions	Weight	Approx. 1.2 kg
	Dimensions W $\times$ H $\times$ D	259.0 $\times$ 232.0 $\times$ 55.0 mm (without the emergency stop switch)
Case Color		Black
Material		PC/ABS resin

*1 Use the Class 2 power supply for the 24-VDC power unit.

*2 Maximum wet-bulb temperature 39°C or less

*3 This is an index that expresses the degree of conductive contamination in the environment where MONITOUCH is used.

"Contamination level 2" indicates the condition where only non-conductive contamination occurs. However, due to condensation, temporary conductive contamination may occur.

CE Marking

- The V808CH series (DC power supply type) complies with the following EMC Directives: EN61000-6-2, EN61000-6-4
- The V808CH series is identified as a class-A product in industrial environments. In the case of use in a domestic environment, the unit is likely to cause electromagnetic interference. Preventive measures should thereby be taken appropriately.

Installation Specifications

Item	Specifications
Grounding	Less than 100Ω, FG/SG separated
Protection Structure (front panel)	IP65-compliant (with interface cover, CF card interface cover, and LAN cover)
Cooling System	Cooling naturally
Structure	Integral type

Display Specifications

Item	Specifications
Display Device	TFT color
Display Size	7.5-inch
Colors	65,536 colors (without blinking) 32,768 colors (with blinking) 128 colors (with blinking)
Display Resolution (W × H)	640 × 480 dots
Dot Pitch (W × H)	0.36 × 0.36 mm
Backlight	Cold-cathode tube (replacement by users not allowed)
Backlight Life (average life of backlight only)	Approx. 50,000 hours (at a room temperature of 25°C)
Backlight Auto OFF Function	Always ON, random setting
Brightness Adjustment	None
Power Lamp (POWER)	ON: Normal (green) Blink: Backlight error
Operation Lamp (optional)	ON: Operative (green) Blink: Inoperative

Touch Switch Specifications

Item	Analog Resistance Film Type
Number of Switches	1024 × 1024 dots
Mechanical Life	One million activations or more
Surface Treatment	Hard-coated, anti-glare treatment 5%

Function Switch Specifications (SYSTEM, F1 - F7)

Item	Specifications
Number of Function Switches	8 pcs.
Method	Membrane switch
Mechanical Life	One million activations or more

External Output Switch Specifications (SW1 - 4)

Item	Specifications
Number of Switches	4 pcs.
Method	Membrane switch
Mechanical Life	One million activations or more
Output Type	Sink output
Rated Voltage	12 - 24 VDC
Max. drive current	50 mA
Output Protection	None
Insulation Method	Photocoupler insulation

Emergency Stop Switch Specifications

Item	Specifications
Number of Switches	1 pce.
Method	Push-lock type (contact b, dual-circuit)
Mechanical Life	100,000 activations or more
Rated Voltage	24 VDC
Rated Current	1A (load resistance)
Applicable Standards	CSA-C22.2 No. 14, EN418

Deadman Switch Specifications

Momentary

Item	Specifications
Number of Switches	1 pce.
Method	Momentary
Mechanical Life	One million activations or more

3-position

Item	Specifications
Number of Switches	1 pce.
Method	3-position (contact a, dual-circuit*)
Mechanical Life	OFF → ON: One million activations or more OFF → ON → OFF: 100,000 activations or more
Rated Voltage	24 VDC
Rated Current	1 A (load resistance)
Applicable Standards	IEC60947-5-1, EN60947-5-1, CSA-C22.2 No.14

* For V808CH4 only. Single-circuit for V808CH2 and V808CH3.

Key Switch Specifications (Optional)

Item	Specifications
Number of Switches	1 pce.
Number of Contacts	Contact a, single-circuit
Mechanical Life	250,000 activations or more
Electrical Life	100,000 activations or more (switching frequency: 1,200 times/hour)

Interface Specifications

Item		Specifications
TB2 (Terminal Block)	Applicable Standards	RS-232C
	Synchronization	Asynchronous type
	Data Length	7- or 8-bit
	Parity	None, even, odd
	Stop Bit	1- or 2-bit
	Baud Rate	4800, 9600, 19200, 38400, 57600, 76800, 115k bps
	Applications	PLC, temperature controller, barcode reader, etc.
TB3 (Terminal Block)	Applicable Standards	RS-422/RS-485 (2-wire connection)
	Synchronization	Asynchronous type
	Data Length	7- or 8-bit
	Parity	None, even, odd
	Stop Bit	1- or 2-bit
	Baud Rate	4800, 9600, 19200, 38400, 57600, 76800, 115k bps (187500 bps for MPI connection*)
	Applications	PLC, temperature controller, V-Link, etc.
USB Connector (USB-B)	Applicable Standards	Compliant with USB version 1.1
	Baud Rate	Low speed: 1.5 Mbps, full speed: 12 Mbps
	Applications	Screen data transfer, PictBridge-compatible printer
Ethernet Port 100BASE-TX/ 10BASE-T (LAN)	Applicable Standards	IEEE802.3u (100BASE-TX), IEEE802.3 (10BASE-T)
	Baud Rate	100 Mbps, 10 Mbps
	Recommended Cable	100 Ω UTP (unshielded twist-pair cable), category 5, max. 100 m long
	Applications	PLC, etc.
CF Card Socket		Compliant with CompactFlash™

* For details, refer to the V8 Series Connection Manual.

Clock and Backup Memory Specifications

Item	Specifications	
	V808iCH	V808CH
Battery	Coin-type lithium primary cell	
Backup Memory (SRAM)	512 kbytes	128 kbytes
Backup Period	Approx. 5 years (ambient temperature at 25°C)	
Battery Voltage Drop Detection	Provided (internal memory of Ss167 allocated)	
Calendar Accuracy	Monthly deviation ± 90 sec (ambient temperature at 25°C)*	

* Time loss is approximately ± 90 seconds a month at an ambient temperature of 25°C in a non-energized state (backup with battery). Depending on the ambient temperature, the calendar month may lose 356 seconds or advance 189 seconds at the maximum. Check and correct the clock periodically.

Drawing Environment

Item	Specifications
Drawing Method	Exclusive configuration software
Drawing Tool	Name of exclusive configuration software: V-SFT-5 Personal computer: Pentium III 800 MHz or above (Pentium IV 2.0 GHz or above recommended) OS: Windows 98SE/NT4.0/Me/2000/XP/XP64 Edition/Vista 32-bit version Capacity of hard disk required: Free space of approx. 850 Mbytes or more Memory: 512 Mbytes or more Display: Resolution 1024 × 800 or above Screen color: 16 bits or more

Display Function Specifications

Item		Specifications				
Interface Language*1		Japanese	English/Western Europe	Chinese (Traditional)	Chinese (Simplified)	Korean
Characters	1/4-size, 1-byte	ANK code	Latin1	ASCII code	ASCII code	ASCII code
	2-byte 16-dot	JIS #1, 2 levels	—	Chinese (traditional)	Chinese (simplified)	Hangul (without Kanji)
	2-byte 32-dot	JIS #1 level	—	—	—	—
Font		Windows font Stroke font				
Character Size	1/4-size	8 × 8 dots				
	1-byte	8 × 16 dots				
	2-byte	16 × 16 dots or 32 × 32 dots				
	Enlargement Factor	X: 1 to 8 times, Y: 1 to 8 times Point*2: 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 26, 28, 36, 48, 72				
Number of Displayable Characters	Display Resolution	640 × 480				
	1/4-size	80 characters × 60 lines				
	1-byte	80 characters × 30 lines				
	2-byte	40 characters × 30 lines				
Character Properties	Display Properties	Normal, reverse, blink, bold, shadow, transparent				
	Colors	65,536 colors (without blinking) / 32,768 colors (with blinking)				
Graphics	Lines	Line, continuous line, box, parallelogram, polygon				
	Circles	Circle, arc, sector, ellipse, elliptical arc				
	Others	Tile patterns				
Graphic Properties	Line Types	6 types (thin, thick, dot, chain, broken, two-dot chain)				
	Tile Patterns	16 types (including user-definable 8 patterns)				
	Display Properties	Normal, reverse, blink				
	Colors	65,536 colors (without blinking) / 32,768 colors (with blinking), 128 colors (with blinking)				
	Color Selection	Foreground, background, boundary (line)				

*1 In addition, the following fonts are available.
 Gothic, English/Western Europe HK Gothic, English/Western Europe HK Times, Central Europe, Cyrillic, Greek, Turkish

For more information, refer to the V8 Series Reference Manual.

*2 Applicable when Gothic font, Windows font or stroke font is used.

Function Performance Specifications

Item		Specifications
Screens		Max. 9999 ^{*1}
Screen Memory (Flash Memory)		V808iCH: Approx. 12.5 Mbytes, V808CH: Approx. 4.5 Mbytes (variable depending on the font)
Switch		1024 per screen
Switch Actions		Set, reset, momentary, alternate, to light (Possible to press a function switch and a switch on the display at the same time)
Lamp		Reverse, blink, exchange of graphics 1024 per screen
Graph		Pie, bar, panel meter and closed area graph: No limitation ^{*2} Statistics and trend graphs: Max. 256 per layer ^{*3}
Data Setting	Numerical Data Display	No limitation ^{*2}
	Character Display	No limitation ^{*2}
	Message Display	Resolution: Max. 80 characters (1-byte) No limitation ^{*2}
Sampling		Sampling display of buffer data (Constant sampling, bit synchronization, alarm logging, time order alarming, alarm function)
Graphic Library		Max. 2560
Overlap Library		Max. 1024
Data Blocks		Max. 1024
Messages		Max. 32768 lines
Patterns		Max. 1024
Macro Blocks		Max. 1024
Page Blocks		Max. 1024
Direct Blocks		Max. 1024
Screen Blocks		Max. 1024
Data Sheets		Max. 1024
Screen Library		Max. 1024
Comments		Max. 32767
Device Memory Map		Max. 32 × 8 (PLC1 to PLC8)
Time Display		Provided
Hard Copy		Provided
Buzzer		Provided, 2 sounds (short beep, long beep)
Auto OFF Function		Always ON, random setting
Self-diagnostic Function		Switch self-test function Communication parameter setting check function Communication check function

^{*1} A maximum of 4,000 screens can be registered to MONITOUCH. When the number of screens exceeds 4,000, a CF card is necessary. For more information, refer to the V8 Series Reference Additional Functions.

^{*2} The number of setting memory locations is limited to 1024 per screen. For more information, refer to the V8 Series Operation Manual.

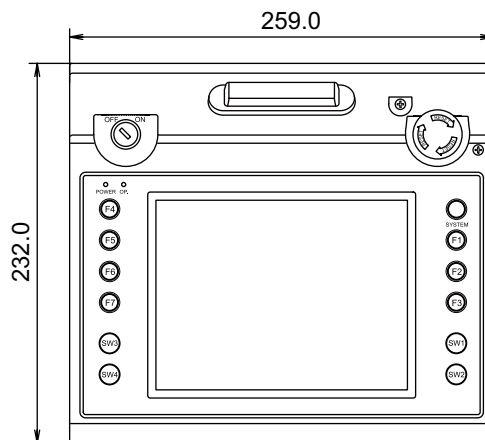
^{*3} Layer: 4 per screen (base + 3 overlap displays)

2. External View

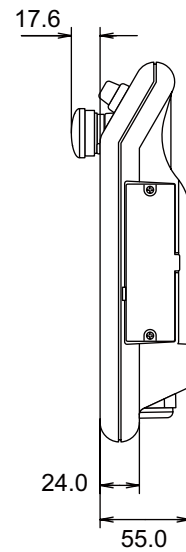
V808CH/V808iCH External Dimensions

(Unit: mm)

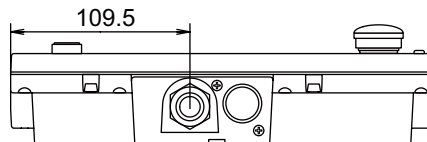
- Front View



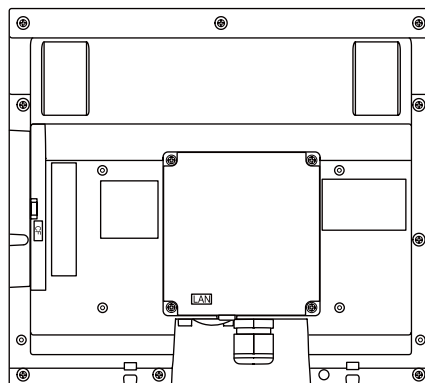
- Side View



- Bottom View

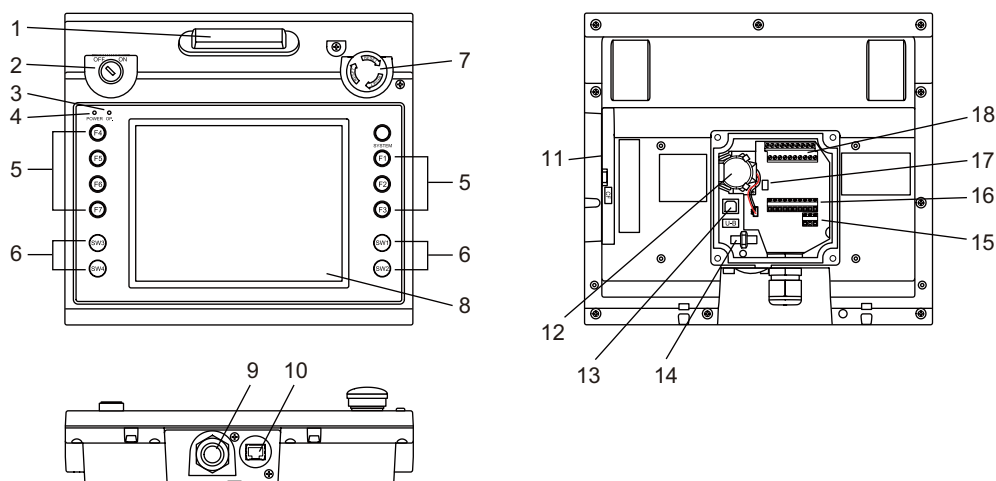


- Rear View



3. Names and Functions of Components

Names of V808CH/V808iCH Components



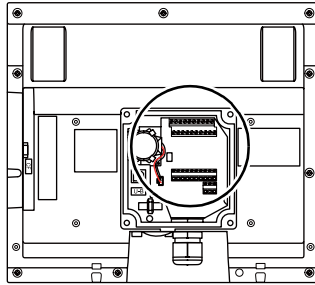
1. Deadman switch
Used to render the V808CH unit inoperative. The unit becomes operative when the switch is pressed.
2. Key switch (optional)
Used to render the V808CH unit inoperative. The unit becomes operative when the key is turned to the ON position.
3. Operation lamp (OP.)
Illuminates in green when the unit is operative, and goes off when the unit is inoperative.
4. Power lamp (POWER)
Illuminates in green when the V808CH unit is powered on, and is operating normally. The lamp flashes when the backlight fails (burned-out backlight, etc.).
5. Function switches
Used to select a mode from RUN and STOP. These switches can be used as user-defined switches in the RUN mode.
6. External output switches
Transmits a switch output signal to the external equipment when each switch is pressed.
7. Emergency stop switch
Used to implement an emergency stop. Pressing this switch transmits an emergency stop signal to the external equipment.
8. Display
This is a display unit.
9. Cable connection port
Used to connect a communication or power cable.
(Hakko Electronics' V808CH-specific cable V8H-C□ recommended. □ = length: 3, 5, 15, 20 m)
10. 100BASE-TX/10BASE-T connector (LAN)
Used for Ethernet connection. (For V808iCH only)
11. CF card socket (CF)
Used to insert a CF card.

12. Battery
Used to back up the SRAM and clock.
When the battery voltage drops, replace the battery with a new one (V7-BT).
13. USB-B (slave port)
Used for screen data transfer or connection with a PictBridge-compatible printer.
14. USB cable clamp hole
Used to attach a USB cable tie.
15. Power supply terminal block (TB1)
Supplies the power (24 VDC) to the V808CH unit.
16. Terminal block (TB2)
Used for RS-232C connection with a peripheral device, such as a PLC, or to transmit switch output signals externally from the function switches.
17. DIP switch
Used for setting the terminating resistance of the RS-422/485 signal line on the TB3 terminal block.
18. Terminal block (TB3)
Used for RS-422/RS-485 connection with a peripheral device, such as a PLC, or to transmit switch output signals externally from the deadman switch and the emergency stop switch.

4. Terminal Blocks

The terminal blocks are used to perform serial communications (RS-232C, RS-422/485) with controllers or transmit switch output signals to the external equipment.

Rear View



Terminal Block TB2

The pins on the terminal block TB2 correspond to the signals as given below.

TB2	Pin No.	Signal	Contents
	1	TXD	RS-232C send data
	2	RXD	RS-232C receive data
	3	RTS	RS-232C request to send
	4	CTS	RS-232C send permitted
	5	SG	Signal ground
	6	D01	External output switch SW1
	7	D02	External output switch SW2
	8	D03	External output switch SW3
	9	D04	External output switch SW4
	10	DCOM-	For external output COM

RS-232C Connection

For RS-232C connection with a controller, refer to "RS-232C or RS-422/485 Connection" (page 2-15).

External Output Switches SW1 - 4

D01 to D04 (pins 6 to 10) are available to transmit switch output signals externally from the external output switches SW1 - 4.

Item	Specifications
Number of Switches	4 pcs.
Method	Membrane switch
Mechanical Life	One million activations or more
Output Type	Sink output
Rated Voltage	12 - 24 VDC
Max. Drive Current	50 mA
Output Protection	None
Insulation Method	Photocoupler insulation
Circuit Configuration	

Terminal Block TB3

The pins on the terminal block TB3 correspond to the signals as given below.

TB3					
Pin No.	Signal	Contents	Pin No.	Signal	Contents
1	EMG1	Emergency stop switch 1	11	NC (+5 V) *	Not used
2			12	+ SD	RS-422 send data (+)
3	EMG2	Emergency stop switch 2	13	- SD	RS-422 send data (-)
4			14	+ RD	RS-422 receive data (+)
5	ENB1	3-position switch 1	15	- RD	RS-422 receive data (-)
6			16	SG	Signal ground
7	ENB2	3-position switch 2	17	+ RTS	RS-422 request to send (+)
8			18	- RTS	RS-422 request to send (-)
9	KEY	Key switch	19	NC	Not used
10			20	NC	Not used

* This is used as a power supply (+5 V) for external terminating resistance when RS-422/485 connection is performed, and not usable as a power supply for external equipment.

Emergency Stop Switch

The EMG1 and 2 (pins 1 to 4) are available to transmit switch output signals externally from the emergency stop switch.

Item	Specifications
Number of Switches	1 pce.
Method	Push-lock type (contact b, dual-circuit)
Mechanical Life	100,000 activations or more
Rated Voltage	24 VDC
Rated Current	1 A (load resistance)
Applicable Standards	CSA-C22.2 No. 14, EN418
Circuit Configuration	

Deadman Switch (3-position)

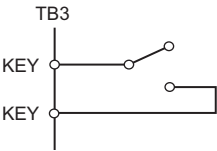
The ENB1 and 2 (pins 5 to 8) are available to transmit switch output signals externally from the deadman switch.

Item	Specifications	
Number of Switches	1 pce.	
Method	3-position (contact a, dual-circuit*)	
Mechanical Life	OFF → ON : One million activations or more OFF → ON → OFF : 100,000 activations or more	
Rated Voltage	24 VDC	
Rated Current	1 A (load resistance)	
Applicable Standards	IEC60947-5-1, EN60947-5-1, CSA-C22.2 No.14	
Circuit Configuration	Single-circuit	Dual-circuit

* For V808CH4 only. Single-circuit used for V808CH2 and V808CH3.

Key Switch

The KEYs (pins 9 and 10) are available to transmit switch output signals externally from the key switch.

Item	Specifications
Number of Switches	1 pce.
Number of Contacts	Contact a, single-circuit
Mechanical Life	250,000 activations or more
Electrical Life	100,000 activations or more (switching frequency: 1,200 times/hour)
Rated Voltage	24 VDC
Rated Current	1 A (load resistance)
Circuit Configuration	

RS-422/485 Connection

For RS-422/485 connection with a controller, refer to "RS-232C or RS-422/485 Connection" (page 2-15).

Wiring

Cable Specifications

- Recommended cable
Hakko Electronics' communication cable: V8H-C□ (□ : 3, 5, 15, 20 m)
* When using a commercially available cable, choose one 6 to 12 mm in outer diameter.
- Tightening torque on the terminal block

Screw Size	Tightening Torque	Core Diameter
M2	0.28 N•m	Single: 0.14 mm ² - 1.5 mm ² (AWG16 - 26) Twisted: 0.14 mm ² - 1.0 mm ² (AWG18 - 26)

- Recommended ferrule

Maker	Model
Phoenix Contact	AI0.25-6YE AI0.346-TQ AI0.5-8WH

Power Cable

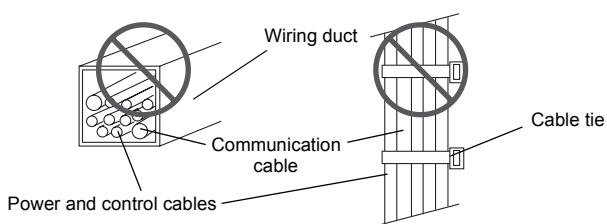
For details on connecting the power cable, refer to "Power Supply Cable Connection" in "Chapter 3 Installation" (page 3-2).

Communication Cable

Notes on communication cable connection

- When connecting a communication cable, make sure that it does not coexist with the cables for high-current circuits.
- Avoid bundling a communication cable together with high-current circuit cables using a cable tie. Bundling cables in this manner is not preferable as it may cause noise problems.

CAUTION



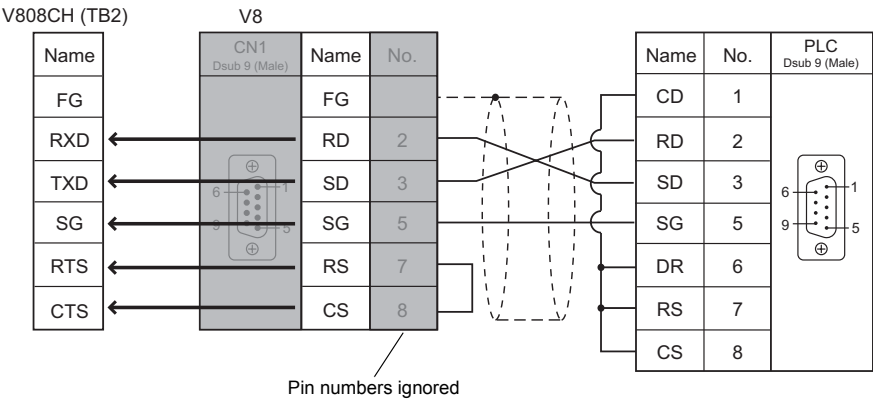
- Connecting communication cables independently is recommended.

RS-232C or RS-422/485 Connection

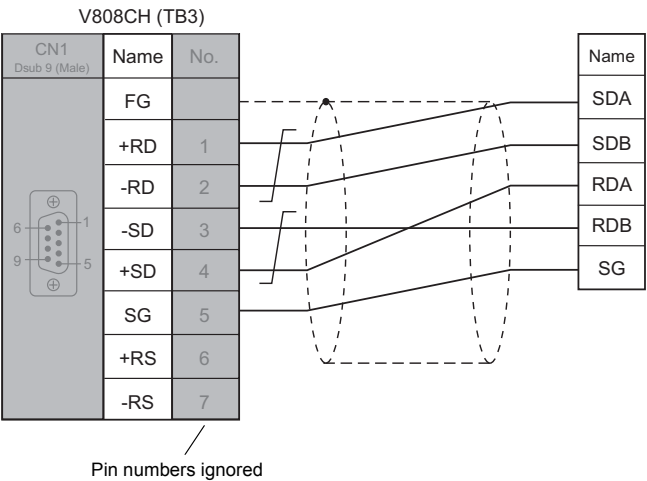
For wiring diagrams including individual controllers, refer to the V8 Series Connection Manual. When performing wiring, match the signal names of the terminal blocks TB2 (RS-232C) and TB3 (RS-422/485) of V808CH with the CN1 signal names specified in the wiring diagrams provided in the V8 Series Connection Manual. (You may ignore the pin numbers of CN1.)

Example: Link connections with the MITSUBISHI QnH (Q) series

- RS-232C connection



- RS-422/485 connection



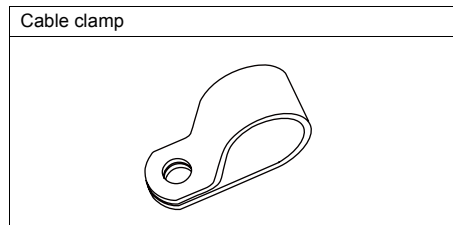
* Multi-link2 connection is allowed in a case where RS-232C connection with a PLC is performed.

Cable Clamp Attachment

Depending on the mounting conditions, a communication cable may be susceptible to an inadvertent disconnection from the V808CH unit.

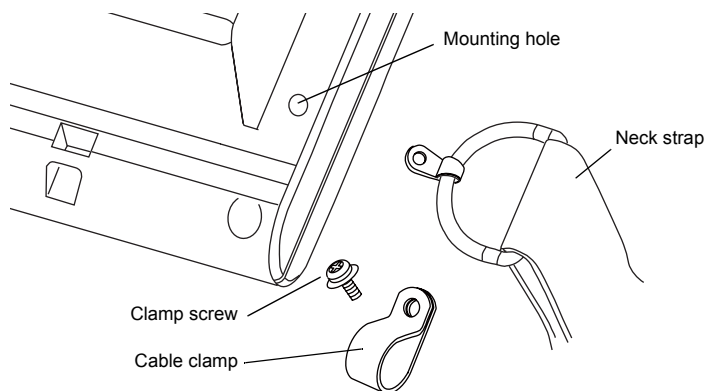
The dedicated cable clamp supplied with the unit should prevent such a problem.

Cable Clamp (Accessory)

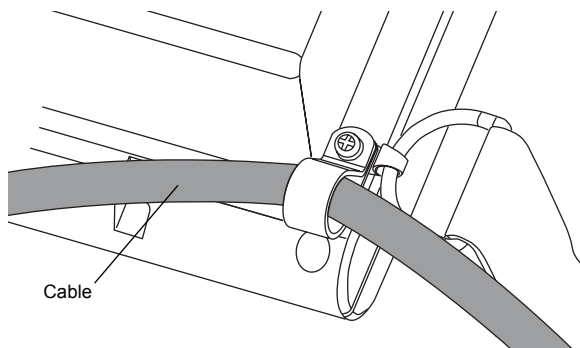


Securing the Cable

1. There are mounting holes at the lower right and the lower left of the backside of a V808CH unit. Through either hole, secure a neck strap and the cable clamp.



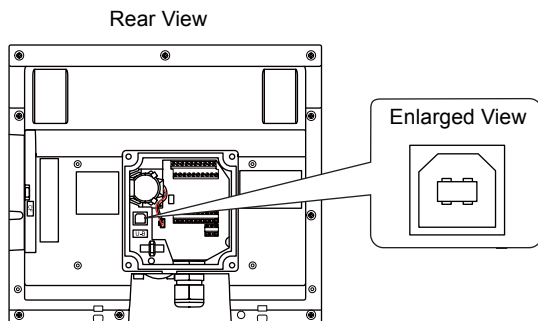
2. Put the cable clamp on the neck strap fixture, and tighten them together using one clamp screw.



5. USB-B (USB Slave Port)

USB-B (USB Slave Port)

The USB-B is used for transferring screen data* or to connect a PictBridge-compatible printer.

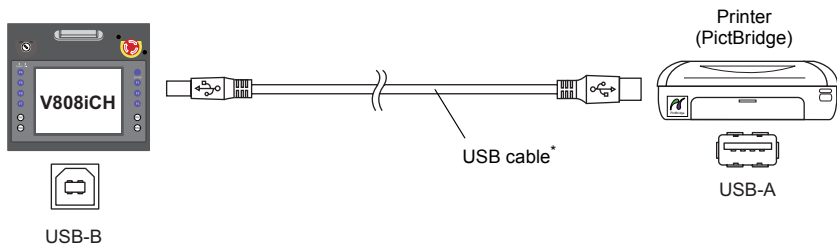


* Be sure to install the dedicated USB driver for the V8 series on the computer. For installation procedure, refer to "Installation Procedure of the Driver for Screen Data Transfer" (page 2-18).

Printer (PictBridge)

From a PictBridge-compatible printer connected via the USB-B, hard copies, historical data or data sheets can be printed out.

Connection Example



* Use a commercially available USB cable. A shielded twist-pair USB cable 5 m in length is recommended.

Available Printer

Any PictBridge-compatible printer can be connected.

V-SFT-5 Setting

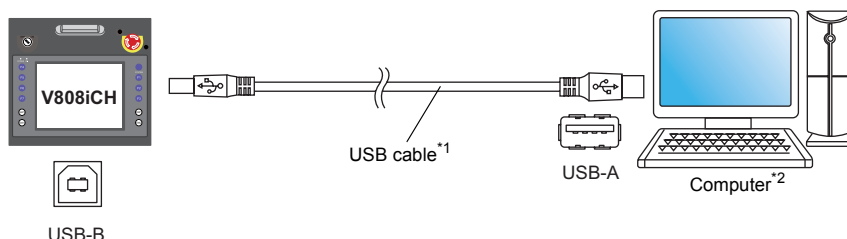
Select [System Setting] → [Device Connection Setting] → [Others] → [Printer]. Then you can set options including [Orientation] and [Reversed Image].

Transferring Screen Data

Screen data can be transferred via the USB-B (USB slave port).

Be sure to install the dedicated USB driver for the V8 series on the computer. For installation procedure, refer to "Installation Procedure of the Driver for Screen Data Transfer" (page 2-18).

Connection Example



*1 Use a commercially available USB cable. A shielded twist-pair USB cable 5 m in length is recommended.

*2 When using the USB on Windows 98, Windows 98 Second Edition or later is required.

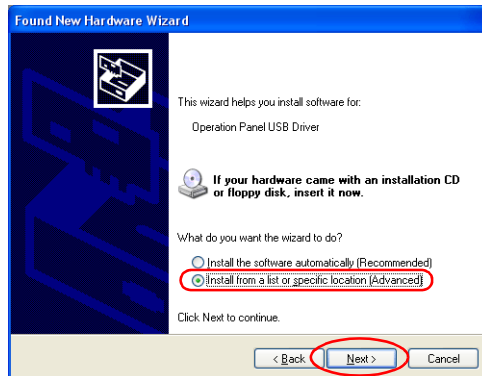
Installation Procedure of the Driver for Screen Data Transfer

The installation procedure on Windows XP is described as an example below.

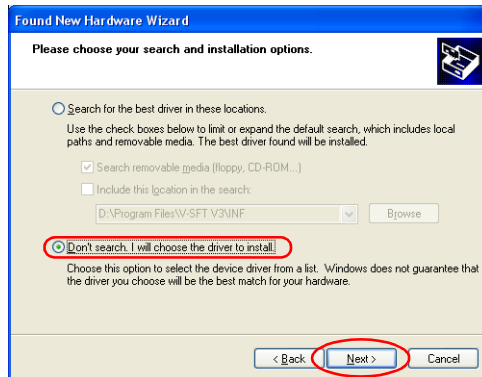
1. Connect the USB-B port of the V808CH unit (with power on) to the computer (with power on) using a USB cable.
2. The message "Found New Hardware" and then the driver installation wizard appear on the computer.
Select [No, not this time] and click the [Next] button.



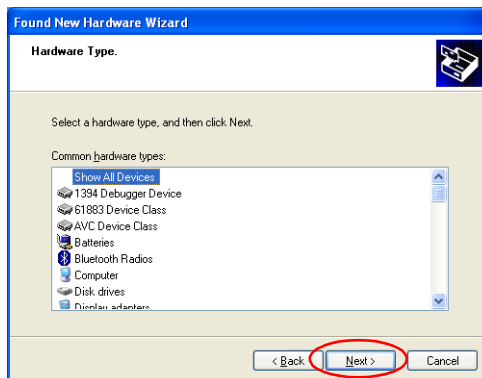
- When the dialog below is displayed, select [Install from a list or specific location (Advanced)] and click the [Next] button.



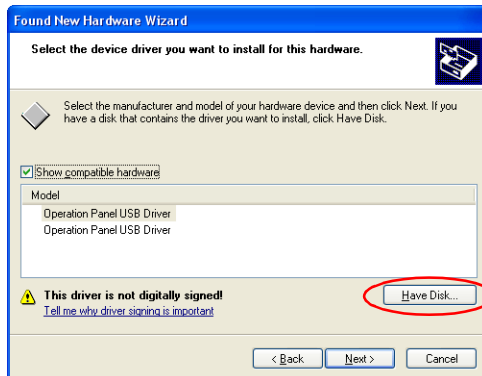
- The dialog below is displayed. Select [Don't search. I will choose the driver to install], and click the [Next] button.



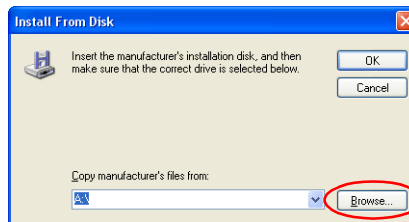
- The dialog below is displayed. Click the [Next] button.



6. The dialog below is displayed. Click the [Have Disk] button.



7. The [Install From Disk] dialog is displayed. Click the [Browse] button.



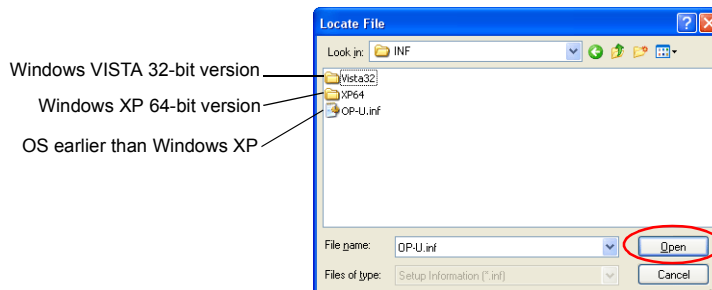
8. The USB driver "OP-U.inf" is automatically stored in the installation folder within the V-SFT-5 editor ("INF" folder in the V-SFT V5 as an example).



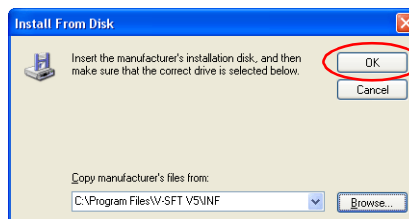
CAUTION

The USB driver to be installed varies, depending on the OS installed on your computer. Be sure that the driver is correct.

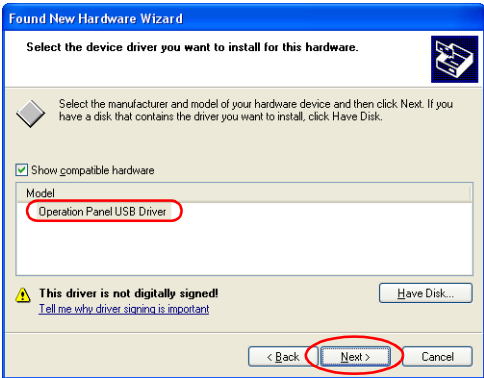
Select the "OP-U.inf" file and click the [Open] button.



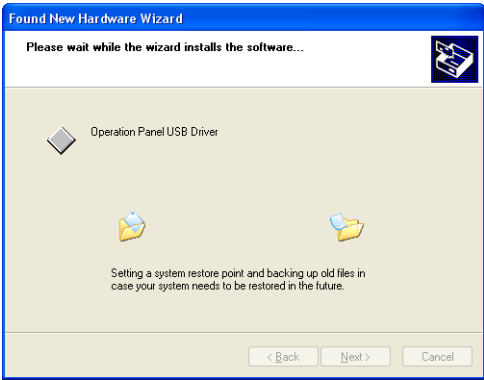
9. The previous dialog is displayed again. Check the path shown under [Copy manufacturer's files from:] and click the [OK] button.



10. The dialog below is displayed. Check that [Operation Panel USB Driver] is shown under [Model]. Click the [Next] button.



11. The driver installation starts.

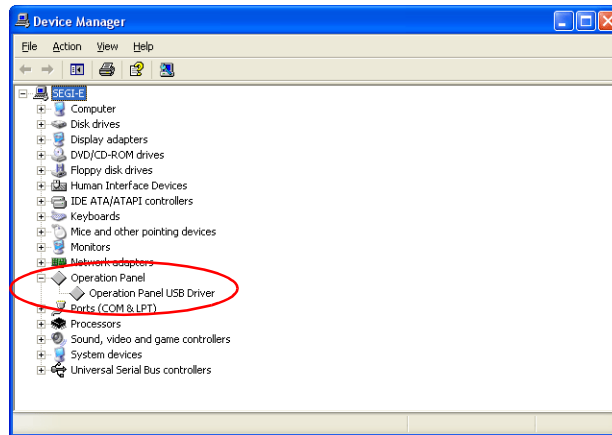


12. The dialog shown below is displayed on completion of installation. Click the [Finish] button.



Recognition of USB Driver

When the driver has been installed successfully, the [Device Manager] window shows “Operation Panel - Operation Panel USB Driver”.



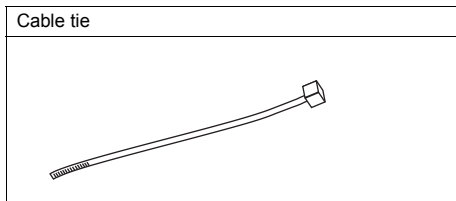
This will disappear when MONITOUCH and the computer are disconnected.

If [Other Device] or [?] is shown even while their connection via the USB is maintained, the USB driver is not recognized. If this happens, uninstall the USB driver and reinstall it.

Securing USB Cable

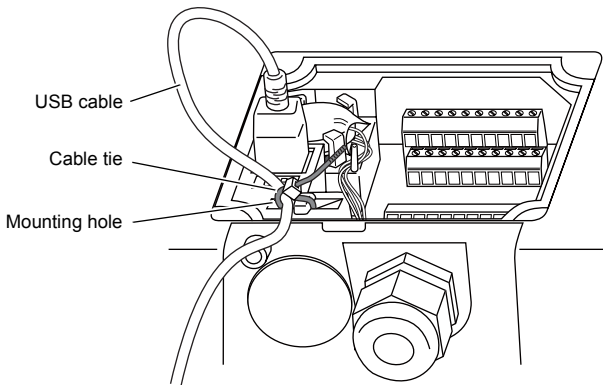
Depending on the mounting conditions, a USB cable may be susceptible to an inadvertent disconnection from the V808CH unit.
The dedicated cable tie supplied with the unit should prevent such a problem.

USB Cable Securing Part (Accessory)



Securing the USB Cable

Draw a cable tie through the hole as shown in the figure below, and secure the USB cable.



* When a USB cable is secured, the V808CH interface cover cannot be closed.

6. LAN Connector (LAN)

LAN Connector

An Ethernet-ready controller can be connected via the LAN connector.
The LAN connector supports 100BASE-TX/10BASE-T.

Bottom View

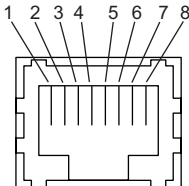


CAUTION

- When using the LAN port, remove the LAN cover with a screwdriver, or appropriate tool. Once opened, the unit is not waterproof.
- Do not connect any overvoltage peripheral device to the LAN connector.

The LAN connector pins correspond to the signals as given below.

Specification: IEEE802.3(u)-compliant, supporting UDP/IP and TCP/IP

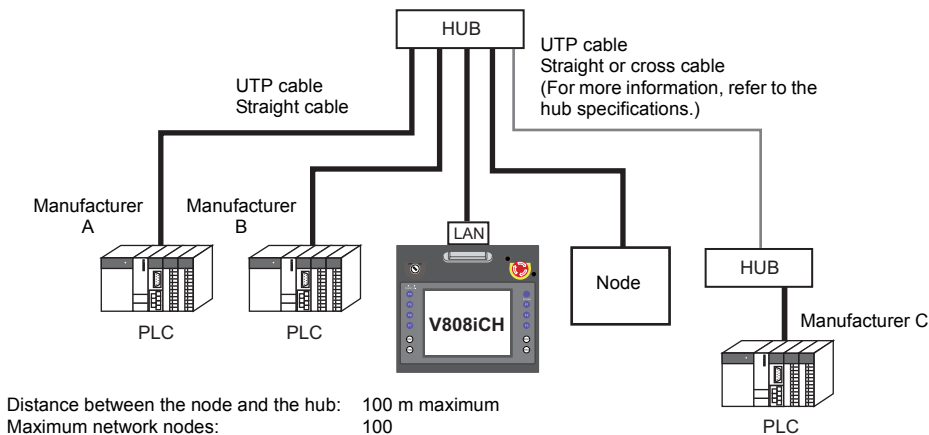
LAN	Pin No.	Signal	Contents
	1	TX+	Ethernet send signal (+)
	2	TX-	Ethernet send signal (-)
	3	RX+	Ethernet receive signal (+)
	4	NC	Not used
	5	NC	Not used
	6	RX-	Ethernet receive signal (-)
	7	NC	Not used
	8	NC	Not used

Wiring



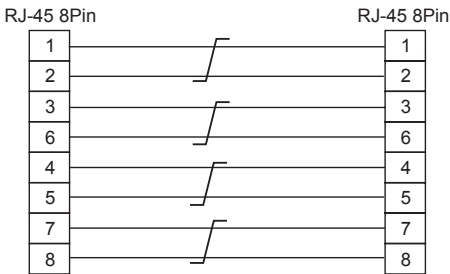
CAUTION

When using the LAN port, keep the LAN cable away from the power supply cable as much as possible.



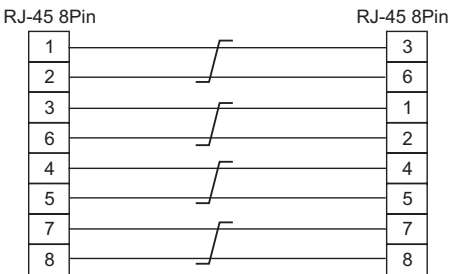
Cable Connection Diagram

Straight cable
(with hub)



* Unshielded twist-pair cable

Cross cable
(without hub)



* Unshielded twist-pair cable

Recommended Cable

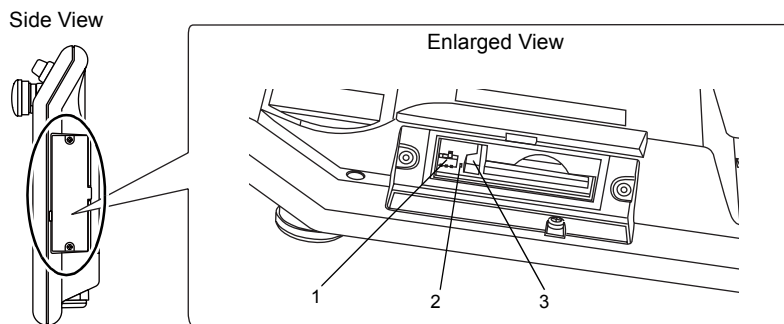
Use a commercially available cable. Using a self-made cable may cause an error in network connection.

Recommended cable: 100Ω UTP (unshielded twist-pair) cable, category 5

7. CF Card

CF Card Socket

A CF card is usable for transferring screen data or saving historical and image data. The CF card socket is provided on the side of MONITOUCH.



1. Slide switch
Slide this switch to the ON position when performing CF card auto-uploading.
(For operational procedures, refer to "DIP/Slide Switch Setting" in "Chapter 4 Handling of MONITOUCH Components" (page 4-6).
2. LED
Illuminates while power is applied to the CF card.
3. Eject button
Used to eject the CF card.



Notes on Handling the CF Card

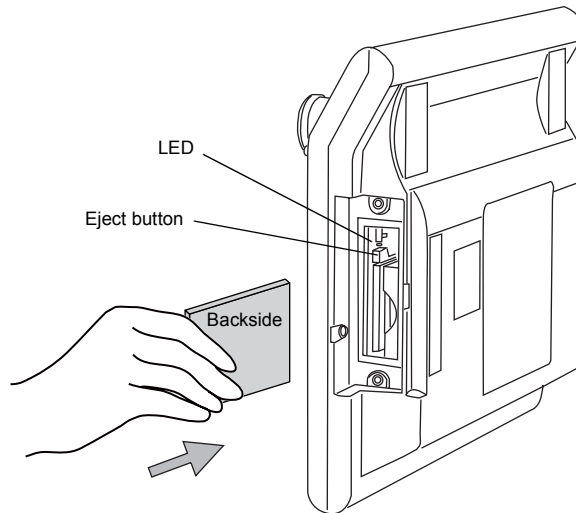
1. The V808CH can recognize a CF card in the file system of FAT or FAT32.
2. The LED lamp in the CF card interface cover illuminates in red when power is applied to the CF card. Do not remove and insert the CF card while the LED lamp is lit. Failure to follow this may result in CF card data corruption. Check that the LED lamp has gone off before inserting or removing the CF card.
3. Do not turn the main unit off and on when power is applied to the CF card.
4. Make a backup copy of the CF card at regular intervals.
5. If a disk error occurs and data read/write operation is disabled, execute ScanDisk on Windows and try to restore the disk.
If not restored, format the CF card. Note that data on the CF card will be completely deleted by formatting. (For information on ScanDisk and Windows operations, refer to the manual for Windows.)
6. The number of writing times per CF card is limited (approx. 300,000 times). Consequently, frequent writing at short intervals may shorten the service life of the CF card. When using a CF card to save sampling data, be aware of the sampling time. Also, avoid repeated writing using a CYCLE macro command.
7. When a high-capacity CF card (2 GB or above) is inserted, the V808CH may need some time to recognize the card. Do not remove and re-insert the CF card during this short period of time.

CF Card Insertion/Removal Procedure

1. Remove the two clamp screws from the CF card interface cover and open the cover.
2. Insert the card securely into the interface. When you view the unit from its side, be sure that the front of the CF card faces the front of the unit as illustrated below when inserting the card.

CAUTION

Insert the CF card into the V808CH unit in the correct orientation. Failure to do so may damage the CF card or the socket of the unit.



3. Close the CF card interface cover and attach the two clamp screws. The LED lamp lights up in red.
4. To remove the card, open the CF card interface cover first. When the LED lamp has gone off, press the eject button. The card pops out.

CAUTION

When removing the CF card, be sure to press the [CF Card Removal] switch or display the Main Menu screen. Failure to do so may result in CF card data corruption.

MEMO

Please use this page freely.

3 Installation

1. Mounting Procedure
2. Power Supply Cable Connection

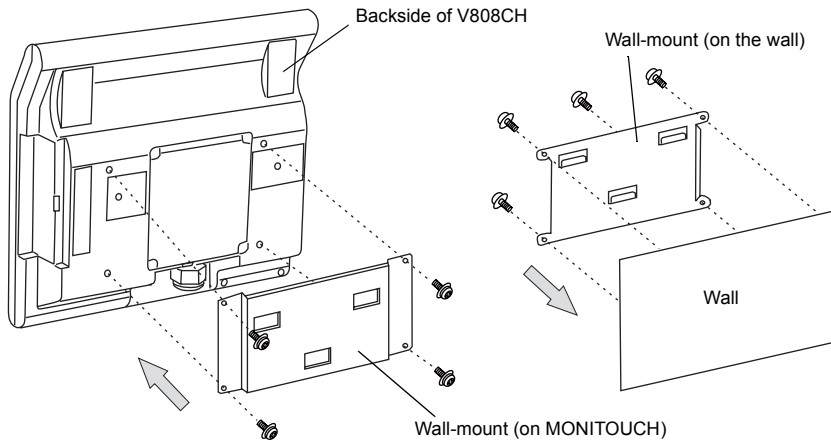
1. Mounting Procedure

Mounting Procedure

The optionally available wall-mounts or VESA-compliant mounts are usable to mount MONITOUCH.

- Wall-mounts (type: V6H-WF)

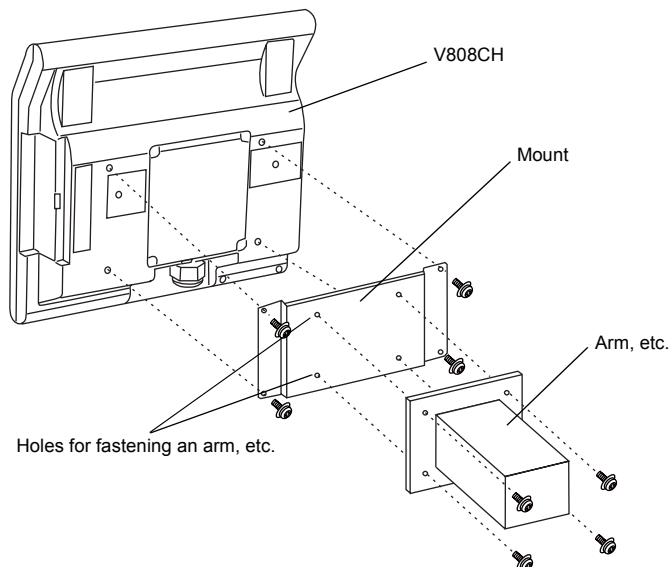
- 1) Attach the wall-mounts respectively to the backside of the V808CH unit through the mounting holes of the unit and also to the wall. Fasten these mounts with the screws included with V808CH. (Tightening Torque: 0.3 - 0.5 N•m)
- 2) Hang the mount attached to the V808CH on the mount attached to the wall.



* For more information, refer to the manual that accompanies the product.

- VESA-compliant mount (type: V8H-WFV)

- 1) Attach the mount to the backside of the V808CH unit with the provided screws through the mounting holes of the unit. (Tightening Torque: 0.3 - 0.5 N•m)
- 2) The mount has additional holes that are used for fastening an arm, etc. When fastening such an object for mounting, use these holes.



* For more information, refer to the manual that accompanies the product.

2. Power Supply Cable Connection

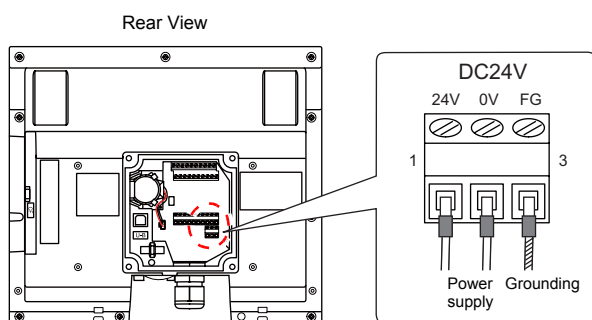


DANGER

Electric shock hazard
Shut the power off before connecting the power supply cable.

Power Supply Cable Connection

Connect the power supply cable to the TB1 terminal block on the backside of the unit.



Tighten terminal screws on the power supply terminal block equally to a torque of 0.28 N•m (2.8 kgf•cm).

Notes on the power supply:

- Power supply must be within allowable voltage fluctuations.
- Use power supply with low noise between the cables or between the ground and the cable.
- Use as thick a power supply cable as possible to minimize drop in voltage.
- Keep power supply cables away from high-voltage, large-current carrying cables.

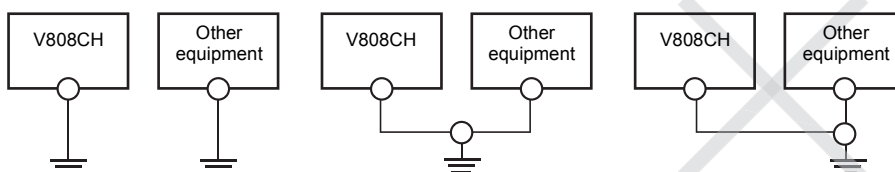
Grounding



CAUTION

Be sure to establish a ground for V808CH.
(The level of grounding resistance should be less than 100Ω.)

- An independent grounding must be used for MONITOUCH.
- Use a cable which has a nominal cross section of more than 2 mm² for grounding.
- Set the grounding point near MONITOUCH to shorten the distance of grounding cables.



4 Handling of MONITOUCH Components

1. Coin-type Lithium Battery (V7-BT)
2. DIP/Slide Switches
3. Function/External Output Switches

1. Coin-type Lithium Battery (V7-BT)

**CAUTION**

The battery connector is disconnected inside the interface cover on the backside of MONITOUCH before its shipment from the factory.
Be sure to finish the battery setting when using the calendar function or SRAM.
Without power supply, the data in the SRAM or calendar will not be retained.

Battery Usage

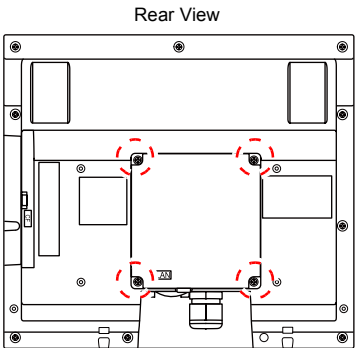
The battery is used for the user memory area (non-volatile memory \$L and \$LD, storing sampling data, etc.) in SRAM or as a backup battery for the built-in clock.

Battery Mounting Procedure

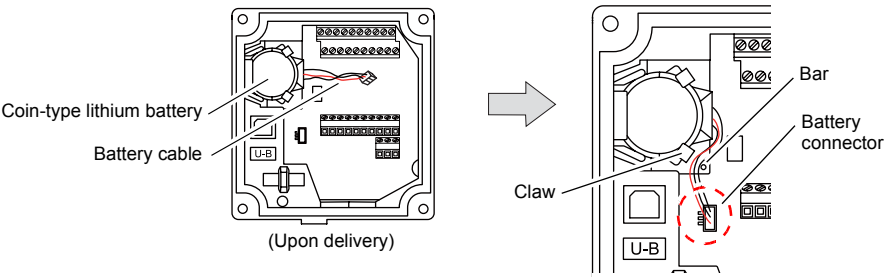
**DANGER**

Electric shock hazard
Be sure that the power to the V808CH is off before performing steps 2 through 5.

- 1. Turn off the V808CH unit.
- 2. Remove the four clamp screws from the interface cover and open the cover.



- 3. Check that the battery is securely attached to the backside of the cover, and connect the battery connector.
As illustrated below, pass the battery cable between the claw of the battery socket and the adjacent bar so as to avoid interference with the terminal block cables.



4. Close the interface cover and fasten it with the four clamp screws.
5. Enter a date five years from now for “Battery replacement” on the caution sticker.

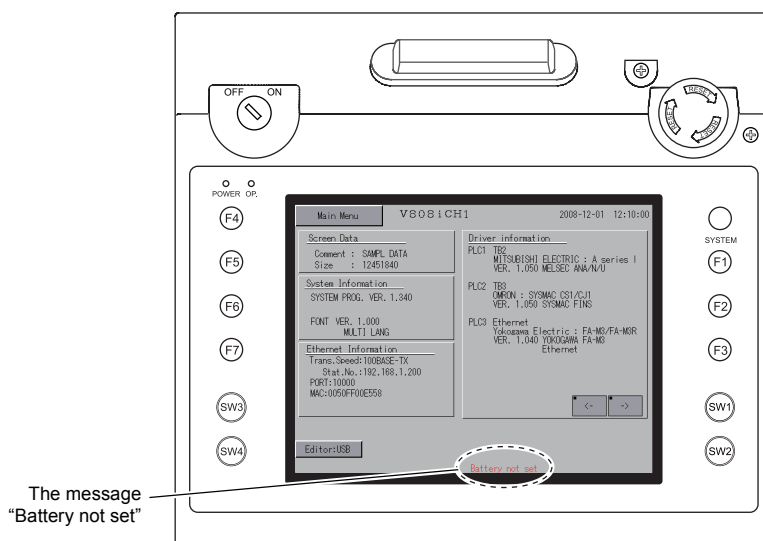
Caution sticker



Write down the date five years from now.

6. Turn on the V808CH unit.
When no battery is set, the message “Battery not set” is displayed, and when the battery voltage has dropped, the message “Brownout Battery” is displayed at the bottom center of the Main Menu screen.

Main Menu screen when the battery is not connected



Battery Voltage Drop Detection

The battery status is output to the internal memory \$s167 of the V808CH unit. When the battery voltage is lowered, the message “Brownout Battery” is displayed at the bottom center on the Main Menu screen. If the battery voltage drops (4th bit is set) before five years has elapsed, replace the battery immediately.

MSB																LSB			
\$s167	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00			
	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0			

System reserved (setting: 0)

 0: Battery OK.
 1: Battery voltage drop
 2: No battery

Battery Replacement

Replacement batteries are available from Hakko Electronics.

Name	Model	Contents
Battery for replacement	V7-BT	- Coin-type lithium primary cell 1 pce. - Caution sticker 1 pce.

Safety Instructions on Handling the Battery

Lithium batteries contain combustible material such as lithium or organic solvents. Mishandling may cause heat, explosion or ignition resulting in fire or injury. To prevent accidents, pay attention to the following cautions when handling lithium batteries.



CAUTION

- Be sure to discharge static electricity from your body before battery replacement.
- Use Hakko Electronics' battery "V7-BT" (replacement battery) for replacement.
- Rough handling of the battery may cause fire or chemical burn hazard.
- Do not disassemble, incinerate or heat the battery.
- Observe local and governmental regulations when disposing of waste batteries.
- Keep batteries out of reach of children. (If swallowed, immediately consult a doctor.)
- Never re-charge the battery.
- When the battery leaks or smells, the leaking battery electrolyte is flammable. Keep from heat or flame.

SRAM Area Backup Procedure

Replace the battery "V7-BT" within three minutes after the unit is turned off.

If it is not possible to replace within three minutes, make a backup copy of data in the SRAM through the V-SFT-5 editor or in a CF card.

When Using the V-SFT-5 Editor:

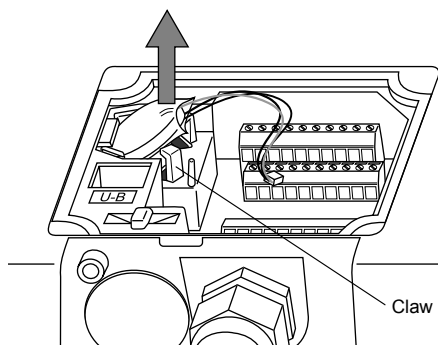
- 1) Connecting a cable
Connect your V808CH unit and computer with a USB cable or an Ethernet cable.
 - 2) Starting the V-SFT-5 editor
Start the V-SFT-5 editor on the computer.
 - 3) Displaying the [Transfer] dialog
Click the [Transfer] icon. The [Transfer] dialog is displayed.
 - 4) Selecting data to be transferred
Select [Display] for [Transfer Device] and [SRAM Data] for [Transfer Data].
Do not check ☐ Use Simulator].
 - 5) Starting SRAM data transfer
Click the [PC <-] button under [Transfer]. Data transfer from the SRAM is started.
 - 6) Saving the SRAM data
When the SRAM data has been transferred, the [Save As] dialog is displayed on the computer. Save the data as a backup copy. The extension is "*.RAM".
- * To transfer the "*.RAM" data saved as a backup to the V808CH, click the [PC ->] button under [Transfer] in step 5.

When Using a CF Card:

For backup procedure with a CF card, refer to "Saving Backup Copies of SRAM" in "Chapter 5 MONITOUCH Operations".

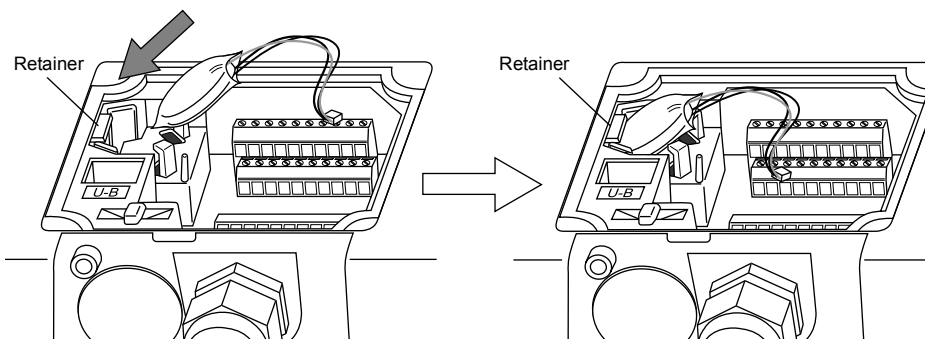
Battery Replacement Procedure

1. Turning off the power to the V808CH unit
Turn off the power to the V808CH unit, and open the interface cover. The battery fit in the socket comes into view.
2. Battery removal
Disconnect the battery connector. As illustrated below, disengage the battery from the claws and raise it. Then remove the battery from the socket.

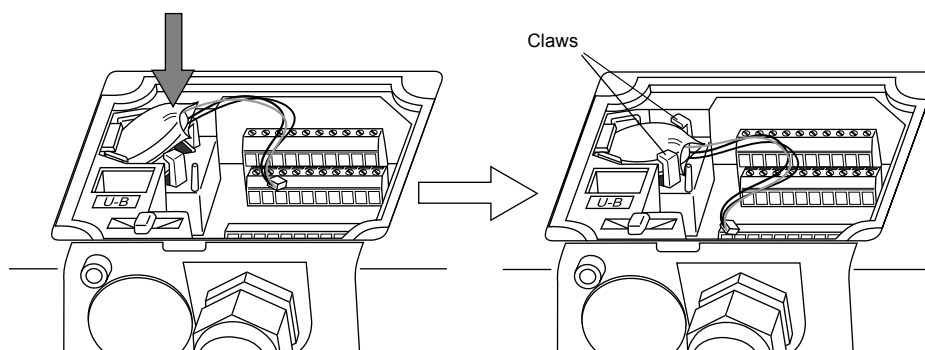


* Be sure to hold the battery when removing it.
Take care not to yank the battery cable.

3. New battery installation
Let the side with the red cable of the new battery face upward. Incline the battery downward and bring it into contact with the retainer of the battery socket.



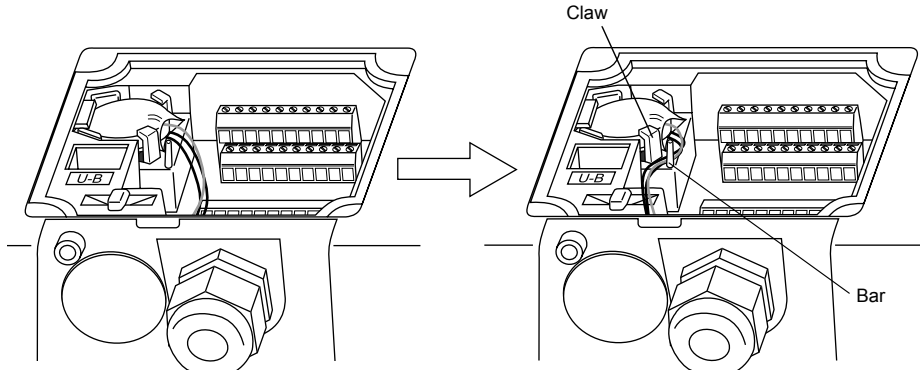
Press the inclined battery downward, and fit the battery under the claws in order to snap it into the battery socket.



4. Battery connector plug-in

Connect the battery connector.

As illustrated below, pass the battery cable between the claw of the battery socket and the adjacent bar so as to avoid interference with the terminal block cables.

**5. Entering an expiry date of the battery**

Close the interface cover.

Remove the existing caution sticker. Enter a date five years from now for "Battery replacement" as an expiry date on the new caution sticker, and attach it to the cover.

6. Turning on the power to the V808CH unit

Turn on the power to the V808CH unit. On the Main Menu screen, check that the battery is correctly set.

7. Backup data transfer

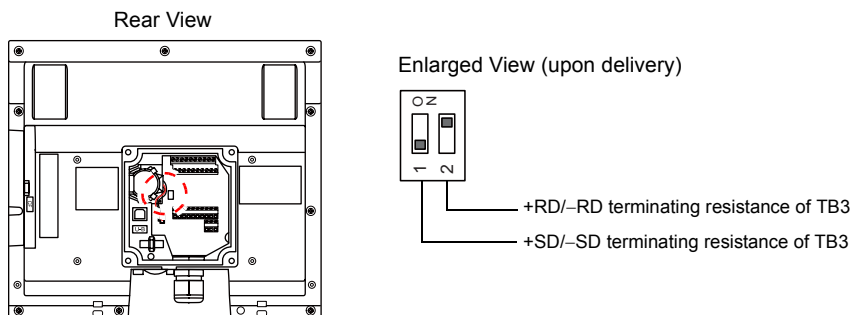
If the backup data "*.RAM" has been made, transfer it to the V808CH unit.

2. DIP/Slide Switches

DIP/Slide Switch Setting

The DIP/slide switches are provided inside the interface cover or the CF card interface cover. When setting the switches, turn the power off.

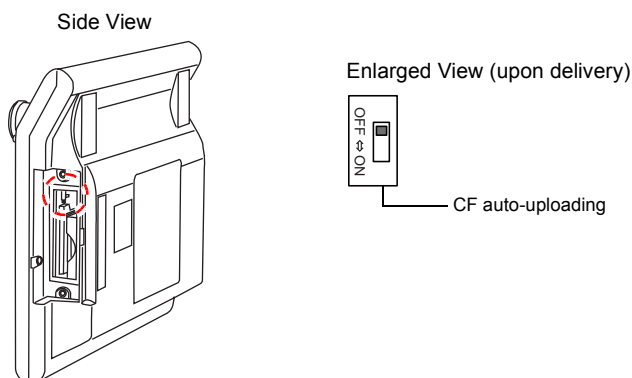
Inside the Interface Cover



DIPSW1, 2 (Terminating Resistance Setting)

The terminal block TB3 is adapted to either RS-485 (2-wire) or RS-422 (4-wire) connection. For connection with a controller via RS-485 (2-wire connection), set the DIPSW2 to the ON position. For connection via RS-422 (4-wire connection), set the DIPSW1 and DIPSW2 to the ON positions.

Inside the CF Card Interface Cover



DIPSW1* (CF Auto-uploading)

Set the DIPSW1 to the ON position when conducting the auto-uploading of a screen data file saved on a CF card.

Procedure

1. Have a CF card to which the screen data is loaded using the V-SFT-5 editor. (For loading procedure, refer to the V8 Series Reference Manual.)
2. Turn off the power to the V808CH unit, and set the DIPSW1 to the ON position.
3. Insert the CF card and turn on the power to the V808CH unit. The screen data is automatically loaded into the FLASH memory of V808CH unit.

* Be sure to set the DIPSW to the OFF position if you do not conduct auto-uploading.

3. Function/External Output Switches

Types

There are twelve function switches provided.

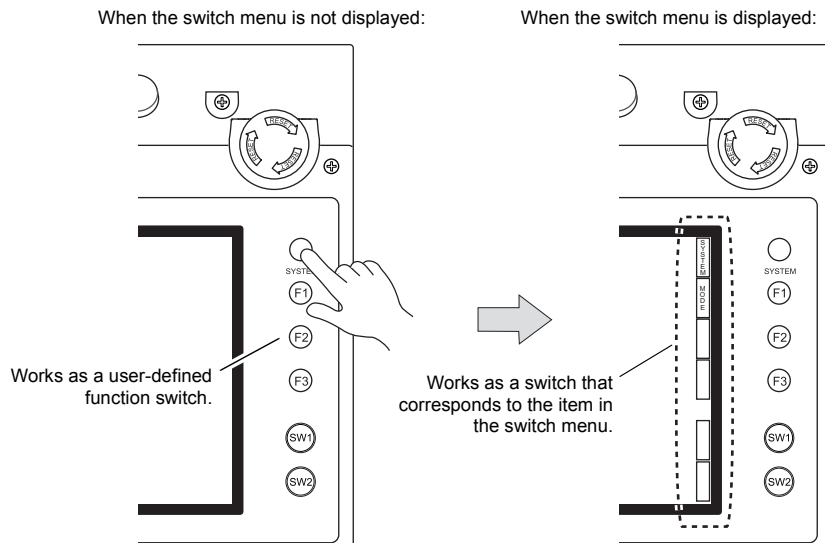
[SYSTEM], [F1], [F2], [F3], [F4], [F5], [F6], [F7], [SW1], [SW2], [SW3], [SW4]

Function of Switches

[SYSTEM] Switch

The [SYSTEM] switch works in “alternate” operations.

When the [SYSTEM] switch is pressed once, the switch menu is displayed on the left side of the function switches [F1] to [F7] as shown in the figure below. Each function switch corresponds to the item displayed in the switch menu.



* If the switch menu is not displayed with the [SYSTEM] switch pressed, the [SYSTEM] switch is disabled. To enable the [SYSTEM] switch, hold down the [F7] switch for the time specified for [Change-over Time] (max. 30 seconds) with the [SYSTEM] switch held down. [Change-over Time] is set on the editor.

[F1] to [F5] Switch Functions with Switch Menu Displayed

	Functions	Specifications	
F1	Mode selection	Selects the operation mode between STOP ↔ RUN. *2	
F2		-	
F3		-	
F4		-	
F5	Backlight control*3	Always ON	-
		Auto 1 Auto 2 Auto 3	- The [F5] switch turns the backlight off. - This is valid when the backlight control bit (bit 11) in the read area "n + 1" in the system memory is reset (OFF: 0).
		Manual Manual 2	- Manual The [F5] switch turns the backlight off. To turn it on, press somewhere on the screen or a function switch. - Manual 2 The [F5] switch turns the backlight on and off. [Backlight Power ON Time Control] that determines the backlight status at power-up becomes valid. When the power is turned on: ON → backlight ON OFF → backlight OFF
F6		-	
F7		-	

*1 If the mode cannot be changed between STOP and RUN using the [MODE] switch, the [F1] (= [MODE]) switch is disabled. To enable the switch, press the [SYSTEM] switch to display the switch menu and hold down the [F7] switch for the time specified for [Change-over Time] (max. 30 seconds) with the [F1] (= [MODE]) switch held down. [Change-over Time] is set on the editor.

*2 The backlight can be controlled by the setting in the [Backlight] tab window that is selected from [System Setting] → [Unit Setting] → [Backlight] on the V-SFT-5 editor.

User-defined Settings for Function Switches [F1] to [F7]

When the V808CH unit is in the RUN mode and the switch menu by the [SYSTEM] switch is not displayed, the function switches can be defined by the user.

User-defined function switches should be set on the V-SFT-5 editor.

- Settings for each screen
[Screen Setting] → [Local Function Switch Setting] → [Local Function Switch Setting] dialog
- Setting for all screens
[System Setting] → [Global Function Switch Setting] → [Global Function Switch Setting] dialog

* If the switch menu is not displayed by the [SYSTEM] switch while the V808CH unit displays the Main Menu screen, no function is specified for each function switch.

External Output Switches SW1 - SW4

These switches are usable as external output switches. For wiring, refer to "External Output Switches SW1 - 4" in "Chapter 2 Specifications" (page 2-11).

5 **MONITOUCH** **Operations**

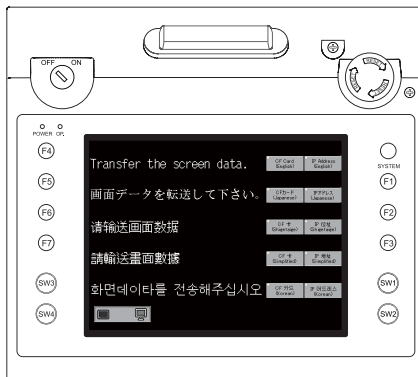
1. Before Operation
2. Main Menu Screen

1. Before Operation

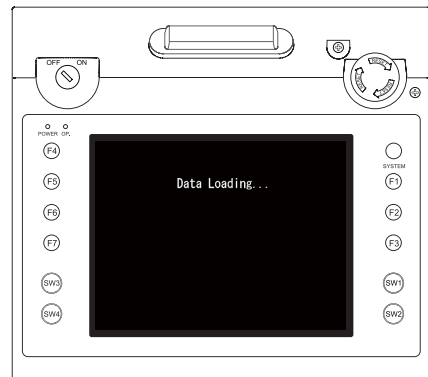
Procedure before Operation

1. Install the V808CH unit and carry out wiring.
For more information, refer to "Chapter 3".
2. Install peripheral devices, such as PLCs or temperature controllers, and carry out wiring.
For information on precautions, refer to the V8 Series Connection Manual separately provided.
3. Turn on the V808CH unit.

When turning the power on for the first time:



Other cases:

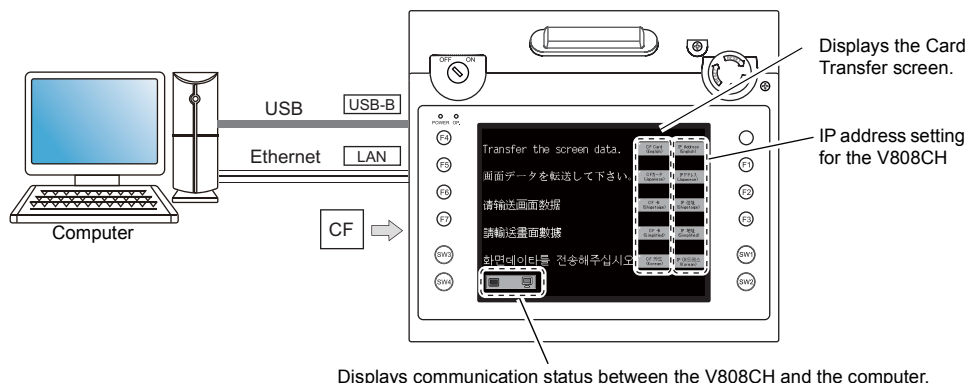


4. Transfer the created screen data.
 - When transferring screen data for the first time:
Refer to "Transferring Screen Data to MONITOUCH for the First Time" (page 5-2).
 - Other cases
For the procedure to change screen data with another, refer to the V8 Series Operation Manual.
5. Start MONITOUCH operation. To change to the RUN mode, refer to "Main Menu Screen" (page 5-3).
When the connection with controllers has been established, the RUN screen is displayed.
 - * If MONITOUCH does not operate normally and shows an error message, eliminate the cause by referring to "Chapter 6" or the V8 Series Reference Manual.

Transferring Screen Data to MONITOUCH for the First Time

There are four methods for transferring screen data for the first time.

Initial screen displayed when the power is turned on for the first time



1) Transfer via USB

Connect a USB cable to the USB slave port (USB-B) on the V808CH unit, and transfer screen data from the computer. (Be sure to install the dedicated USB driver on the computer. For installation procedure, refer to "Chapter 2" on page 2-18.)

2) Transfer using a CF card*

Press the [CF Card (English)] switch on the initial screen. The Card Transfer screen is displayed and data transfer is enabled.

(For screen operating procedure, refer to "Chapter 5" on page 5-17.)

3) Transfer using a CF card (auto-uploading)*

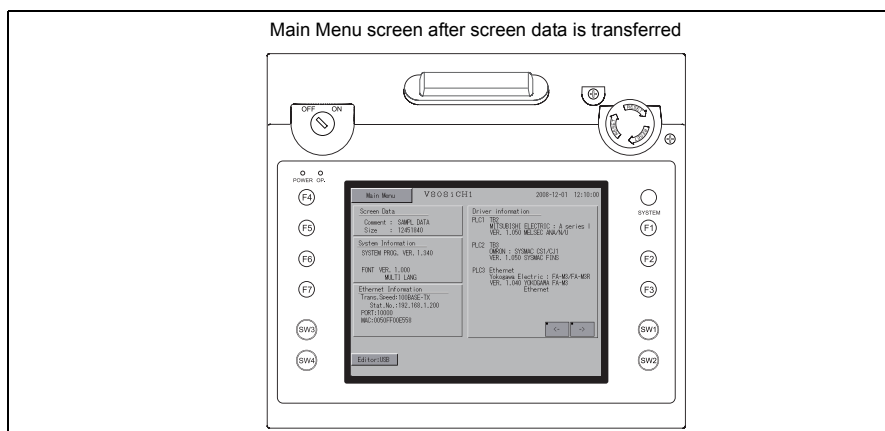
When the power to MONITOUCH is turned on, screen data transfer is automatically started. (For operating procedure, refer to "Chapter 4" on page 4-6.)

4) Transfer via Ethernet

Connect an Ethernet cable to the LAN port on the V808CH unit, and transfer screen data from the computer. Pressing the [IP Address (English)] switch on the initial screen brings up the Ethernet screen, on which you can set the IP address for the V808CH. (For screen operating procedure, refer to "Chapter 5" on page 5-7.)

* Load screen data from the computer to the CF card in advance. For data loading procedure, refer to the V8 Series Reference Manual separately provided.

When the screen data has been transferred, the following screen is brought up. For details, refer to "Main Menu Screen" on page 5-3.



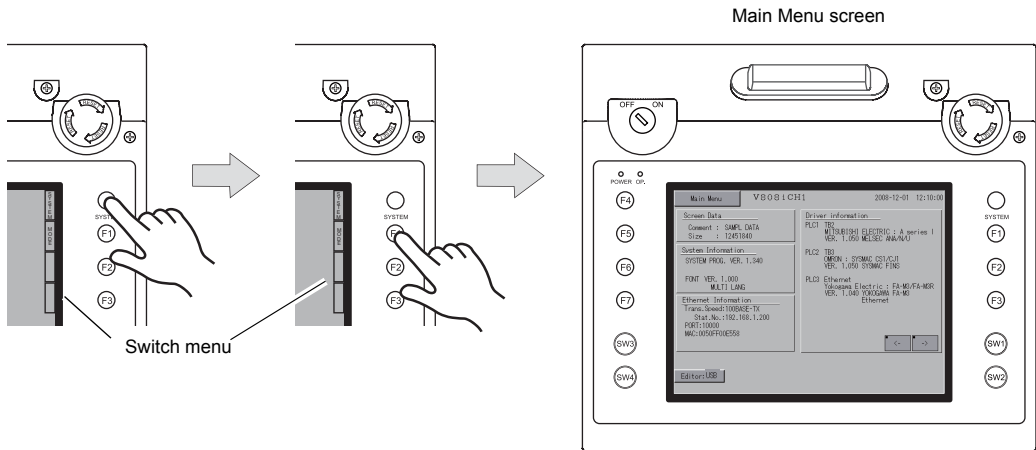
2. Main Menu Screen

Displaying the Main Menu Screen

To bring up the Main Menu screen in the RUN mode, press the [SYSTEM] switch and then the [F1] switch*2 while the switch menu is displayed*1.



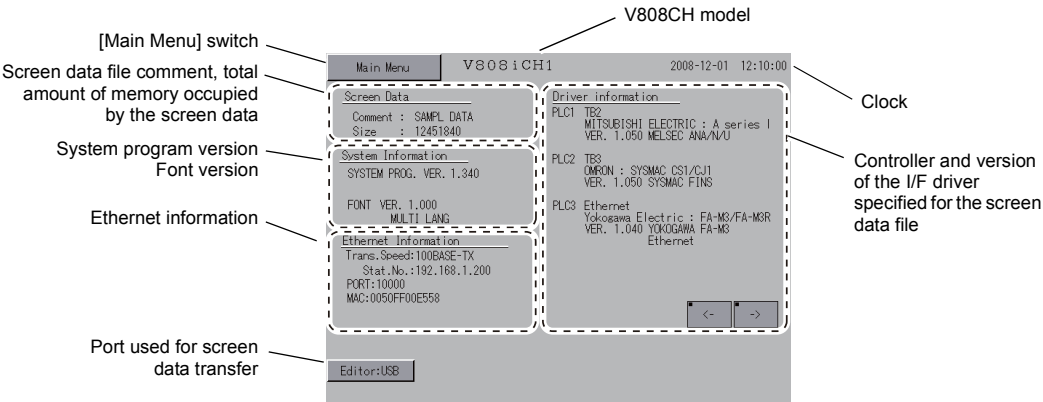
Check that the OP. LED is lit. If the LED is off, press the deadman switch to illuminate it. The screen becomes operative accordingly.



- *1 If the switch menu is not displayed with the [SYSTEM] switch pressed, the [SYSTEM] switch is disabled. To enable the [SYSTEM] switch, hold down the [F7] switch for the time specified for [Change-over Time] (max. 30 seconds) with the [SYSTEM] switch held down. [Change-over Time] is set on the editor.
- *2 If the Main Menu screen is not brought up with the [F1] switch pressed, the [F1] (= [MODE]) switch is disabled. To enable the [F1] switch, press the [SYSTEM] switch to display the switch menu and then hold down the [F7] switch for the time specified for [Change-over Time] (max. 30 seconds) with the [F1] (= [MODE]) switch held down. [Change-over Time] is set on the editor.

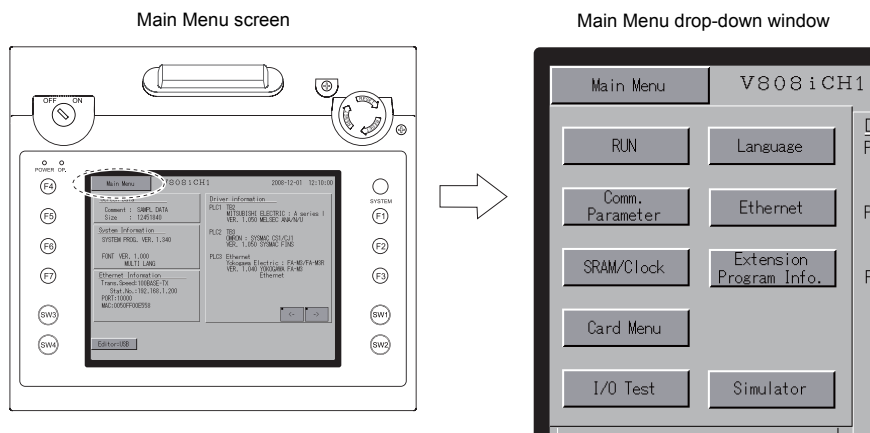
Main Menu Screen

The Main Menu screen indicates the model of the V808CH series, system information, and screen data information. Also, it works as the system screen when the screen data is transferred between a computer and the V808CH unit.



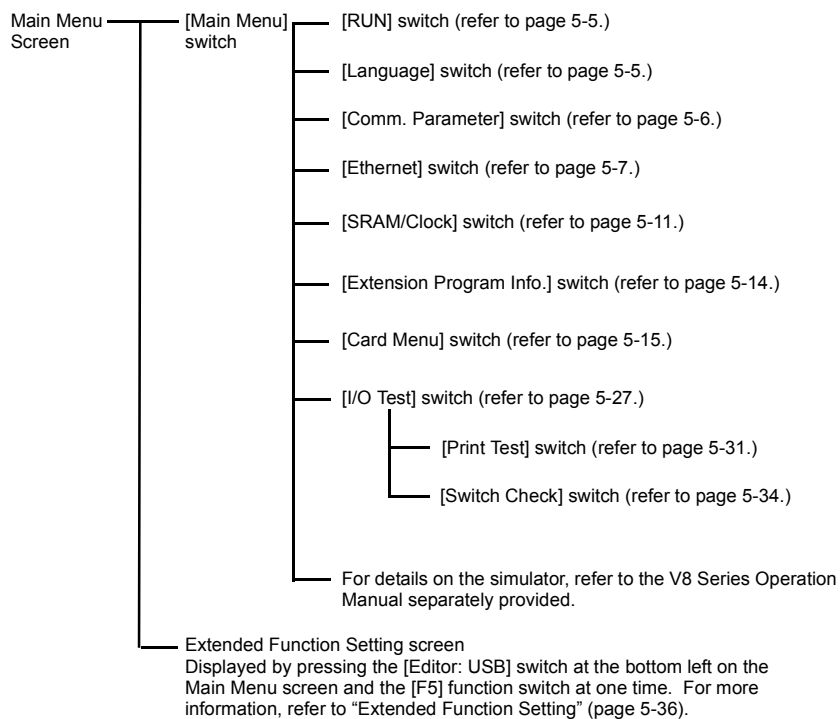
[Main Menu] Switch

Pressing the [Main Menu] switch brings up the following drop-down window.



Main Menu Screen Composition

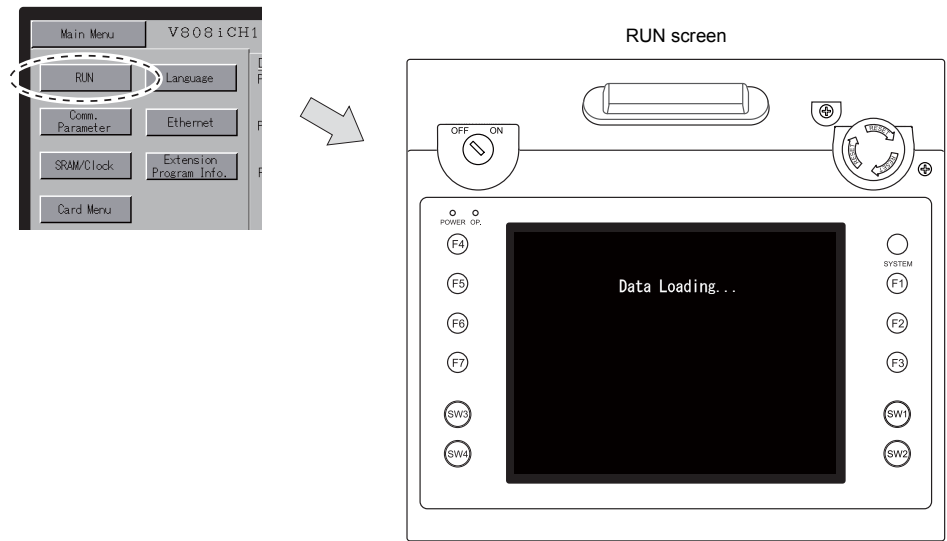
The Main Menu screen is configured as shown below:



1. RUN

Pressing the [RUN] switch on the Main Menu drop-down window switches the screen to the RUN mode.

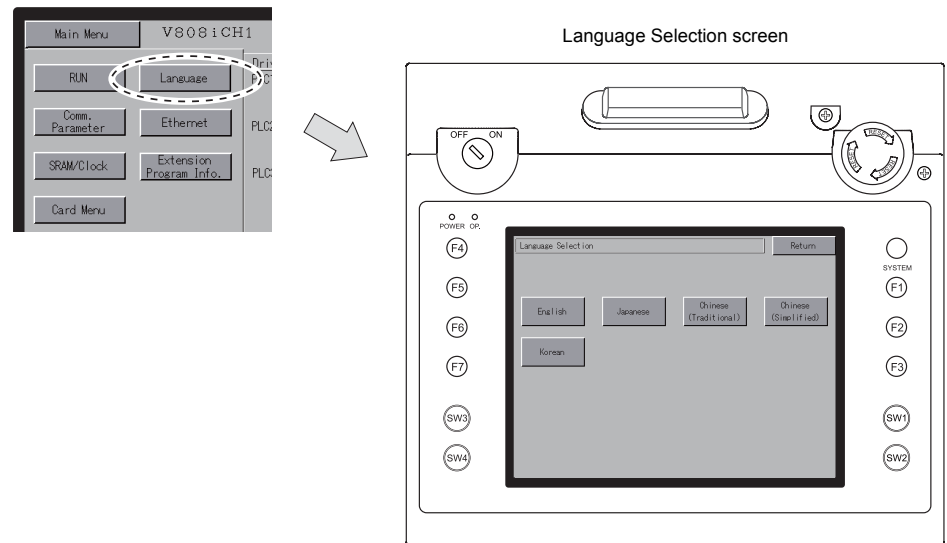
Main Menu drop-down window



2. Language Selection

Pressing the [Language] switch on the Main Menu drop-down window brings up the Language Selection screen. Languages* selected in the [Font Setting] dialog of the V-SFT-5 editor are displayed on the Language Selection screen that is used for selecting an interface language for the Main Menu screen.

Main Menu drop-down window



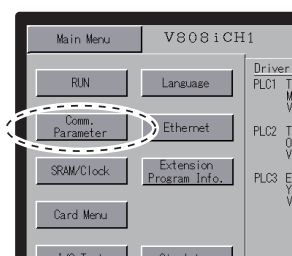
* The interface language for the Main Menu screen can be selected from English, Japanese, Chinese (simplified), Chinese (traditional) or Korean. English is always displayed.

3. Communication Parameter

Pressing the [Comm. Parameter] switch on the Main Menu drop-down window brings up the Comm. Param. screen.

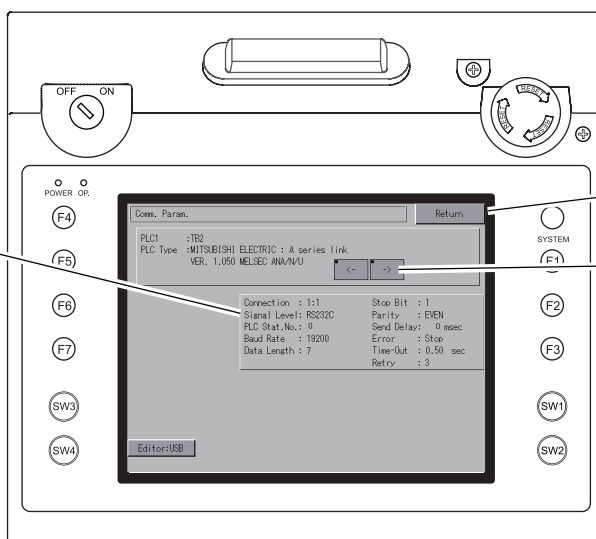
Communication parameters of PLC1 to PLC8 that are set on the V-SFT-5 editor can be checked on this screen.

Main Menu drop-down window



Comm. Param. screen

Displays a specified communication parameter.



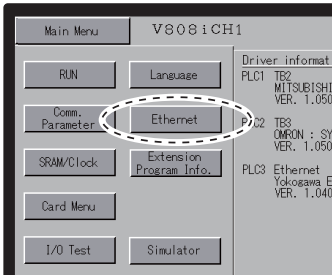
Moves back to the Main Menu screen.

Changes the display of the setting from PLC1 to PLC8.

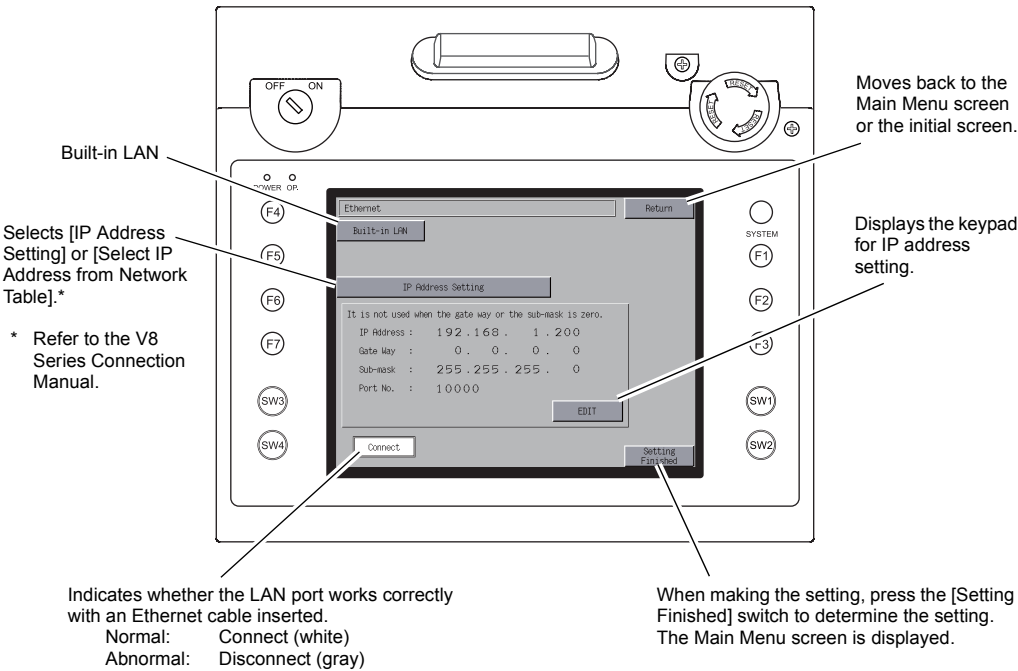
4. Ethernet

Pressing the [Ethernet] switch on the Main Menu drop-down window brings up the Ethernet screen. This screen is used for setting an IP address for the V808CH.

Main Menu drop-down window



Ethernet screen



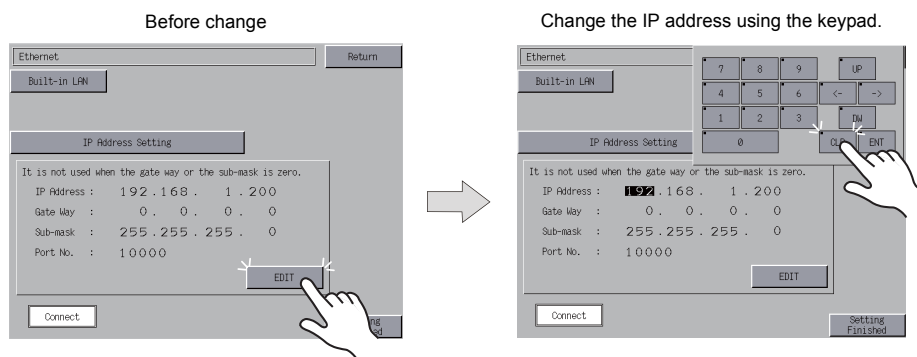
4-1. IP Address Setting of the V808CH

When using Ethernet communications, you need to set the IP address of the V808CH. Set the IP address either on the V808CH unit or for screen data using the V-SFT editor.

- * If the IP address setting has been made in the two manners as mentioned above, the IP address set in the screen data takes effect when the power is turned on next.

Setting on the Ethernet Screen on V808CH Unit

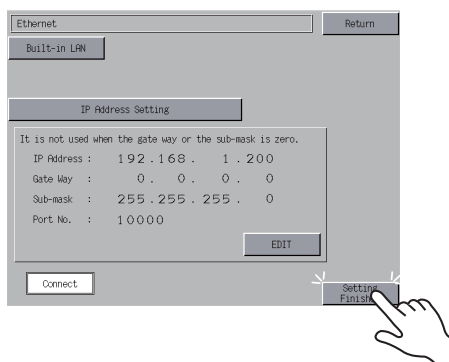
1. Press the [Ethernet] switch on the Main Menu drop-down window to display the Ethernet screen.
2. Press the [EDIT] switch and set each item.



It is not used when the gateway or the subnet mask is zero.

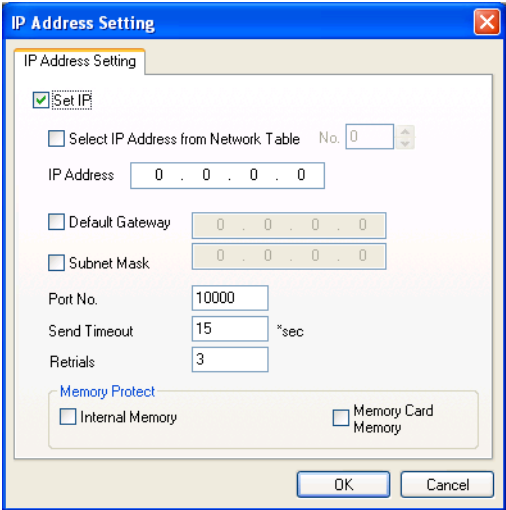
3. Press the [Setting Finished] switch to determine the IP address. Check the IP address displayed at "Ethernet Information" on the Main Menu screen.

Determine the IP address setting.



Setting using the V-SFT editor

- 1. Select [System Setting] → [Ethernet Communication] → [Local Port IP Address] on the V-SFT editor. The [IP Address Setting] dialog is displayed.
- 2. Check the ☐ Set IP] check box and set each item.



☐ Select IP Address from Network Table	This is valid when the IP address of the V808CH has been registered in the network table. Select a network table number from 0 to 99 to set the IP address.
IP Address *	Set the IP address for the V808CH.
☐ Default Gateway *	Set the default gateway.
☐ Subnet Mask *	Set the subnet mask. When this box is not checked, the subnet mask is automatically assigned based on the bits at the extreme left of the IP address. Example: When IP address is "172.16.200.185", "255.255.0.0" is set. When IP address is "192.168.1.185", "255.255.255.0" is set.
☐ Port No. *	Set a port number from 1024 to 65535 other than 8001.
Send Timeout	Specify the timeout time to send the EREAD/EWRITE command.
Retrials	0 to 255 Set the number of retrials to be performed when a time-out occurs.
Memory Protect ☐ Internal Memory ☐ Memory Card Memory	Check either check box to write-protect the memory from computers or other stations.

* For more information on setting items, refer to page 5-10.

- 3. Click [OK].
- 4. Transfer the screen data to the V808CH. Check the IP address displayed at "Ethernet Information" on the Main Menu screen.

IP Address

This is an address that is used for recognizing each node on the Ethernet and should be unique. The IP address is 32-bit data which consists of the network address and the host address and can be classified into A to C depending on the network size.

Class A	0	Network address (7)	Host address (24)
Class B	10	Network address (14)	Host address (16)
Class C	110	Network address (14)	Host address (8)

<Notation>

A string of 32-bit data is divided into four, and each segment delimited with a period is in decimal notation.

Example: The IP address in class C shown below is represented as "192.128.1.50".

11000000 10000000 00000001 00110010

<Unusable IP addresses>

- "0" is specified for one byte at the extreme left. Example: 0.x.x.x
- "127" is specified for one byte at the extreme left (loop back address). Example: 127.x.x.x
- "224" or more is specified for one byte at the extreme left (for multi-cast or experiment). Example: 224.x.x.x
- The host address consists of only "0" or "255" (broadcast address). Example: 128.0.255.255, 192.168.1.0

Port No.

Multiple applications are running on each node, and communications are carried out for each application between the nodes. Consequently, it is necessary to have a means to identify the application that data should be transferred to. The port number works as this identifier. Each port number is 16-bit data (from 0 to 65535).

The V808CH uses the port for screen data transfer (8001), PLC communication (as desired), and the simulator (8020). Set a unique number in the range of 1024 to 65535. For a PLC or a computer, set the port number in the range of 256 to 65535. It is recommended to set a greater number.

Default Gateway

A gateway and a router are used for communication between different networks.

The IP address of the gateway (router) should be set to communicate with the node(s) on other network.

Subnet Mask

A subnet mask is used for dividing one network address into multiple networks (subnet).

The subnet is assigned by specifying a part of the host address in the IP address as a subnet address.

Class B	10	Network address (14)	Host address (16)
Subnet mask	255.	255.	255.0
	11111111	11111111	11111111 00000000
	Network address	Subnet address	Host address

<Unusable subnet masks>

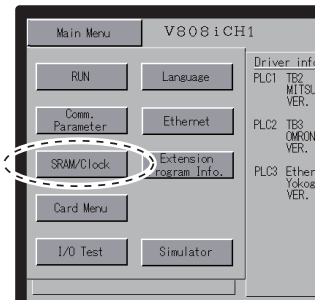
- All bits are set to "0". (0.0.0.0)
- All bits are set to "1". (255.255.255.255)

5. SRAM/Clock

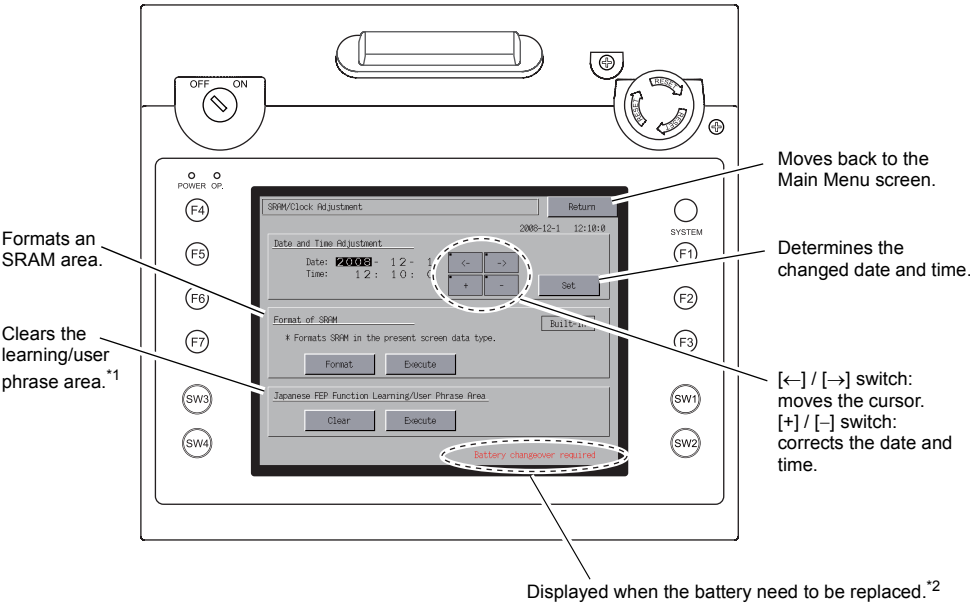
Pressing the [SRAM/Clock] switch on the Main Menu drop-down window brings up the SRAM/Clock screen.

This screen is used for correcting the built-in calendar (date and time), for formatting the SRAM area, and for clearing learning/user phrase area in the Japanese FEP function.

Main Menu drop-down window



SRAM/Clock screen



*1 This option is displayed when [Use Japanese Conversion Function] in the [System Setting] menu is checked on the V-SFT-5 editor. For the setting procedure, refer to the V8 Series Reference Manual.

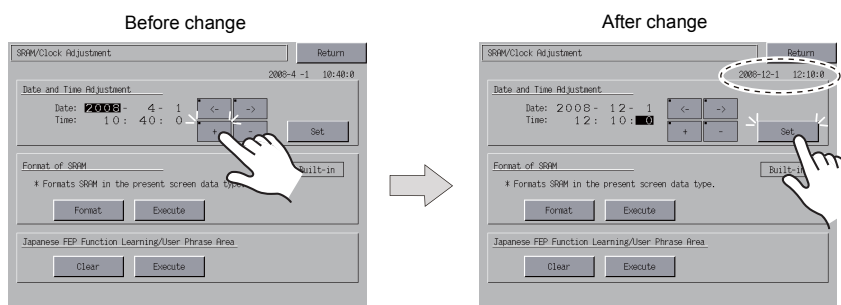
*2 Be sure to set the battery. Without the battery, the contents in the SRAM or clock data will not be retained.

5-1. Date and Time Adjustment

This screen is used for correcting the built-in clock of the V808CH.

To use the built-in clock of the V808CH, check [Use Built-in Clock] in the [SRAM/Clock Setting] dialog that is displayed by selecting [System Setting] → [Unit Setting] → [SRAM/Clock] on the V-SFT-5 editor.

1. Move the cursor using the [←] and [→] switches. Correct the date and time using the [+] and [−] switches.
2. Press the [Set] switch to determine the setting. The clock displayed at the top right is modified.



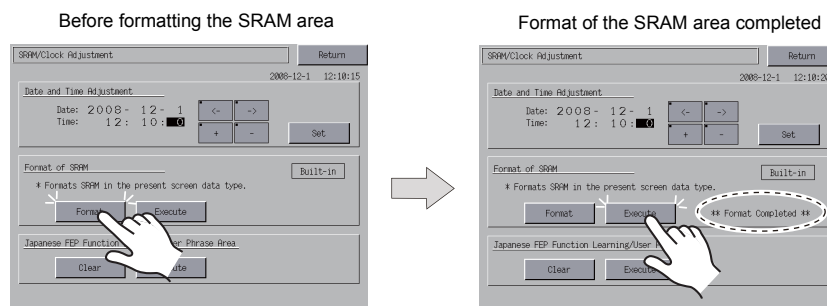
3. Pressing the [Return] switch displays the Main Menu screen again.

5-2. Formatting SRAM

An SRAM area can be formatted.

When the SRAM area is formatted, the contained data (historical data saved in SRAM, internal memory \$L, etc.) is cleared. Double-check before formatting the SRAM.

1. Press the [Format] switch and the [Execute] switch.
The SRAM area is formatted in the current screen data format. When formatting has been completed, the message "**Format Completed**" is displayed.

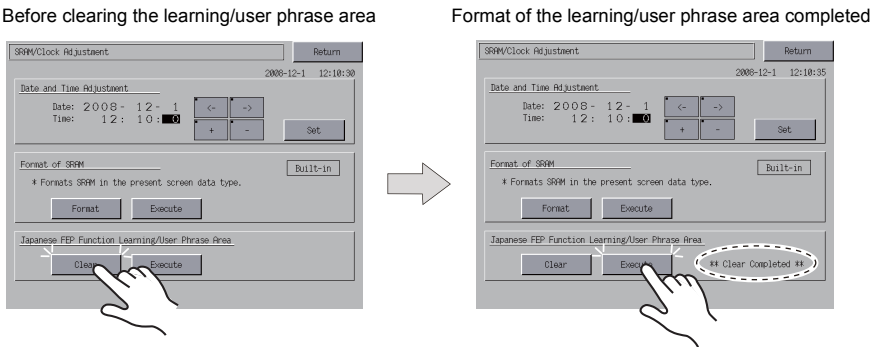


2. Pressing the [Return] switch displays the Main Menu screen again.

5-3. Japanese FEP Function Learning/User Phrase Area

The area used by the Japanese FEP function can be cleared.
When the learning/user phrase area is cleared, all of the registered data is deleted. Double-check before clearing the area.

- 1. Press the [Clear] switch and the [Execute] switch. When the area has been completely cleared, the message “**Clear Completed**” is displayed.

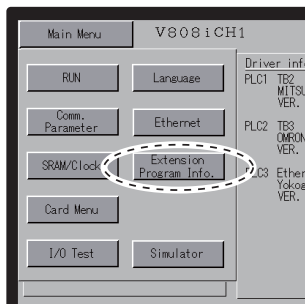


- 2. Pressing the [Return] switch displays the Main Menu screen again.

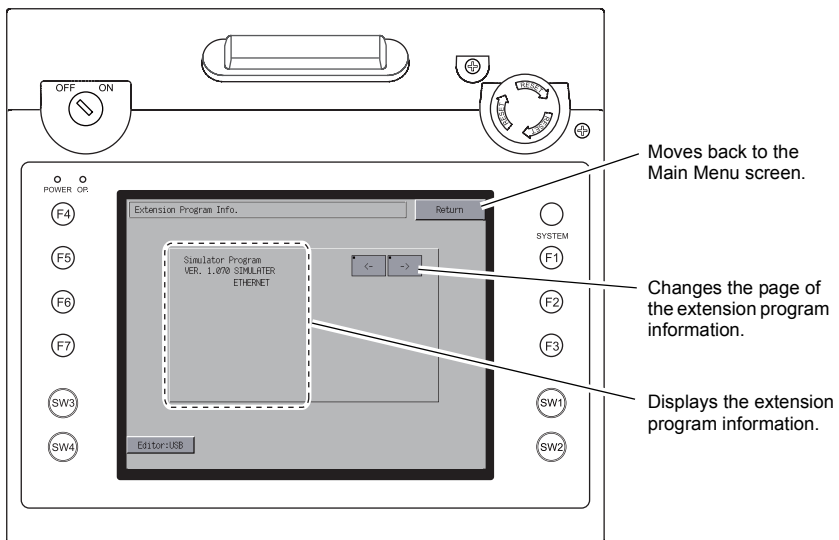
6. Extension Program Information

Pressing the [Extension Program Info.] switch on the Main Menu drop-down window brings up the Extension Program Info. screen. This screen is used for checking program versions of the ladder transfer function, printer, Japanese FEP function, simulator, etc.

Main Menu drop-down window



Extension Program Info. screen

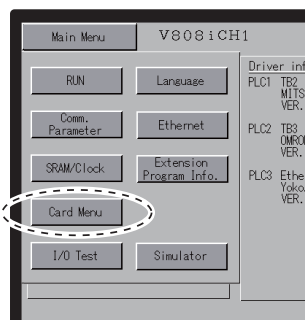


7. Card Transfer

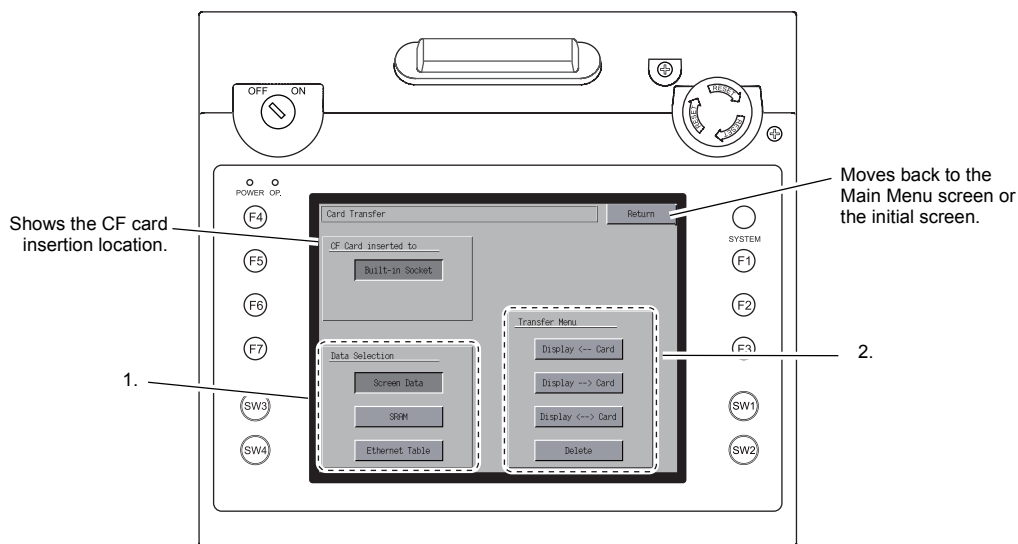
Pressing the [Card Menu] switch in the Main Menu drop-down window brings up the Card Transfer screen.

This screen is used to transfer screen data between the V808CH unit and a CF card or a memory card.

Main Menu drop-down window



Card Transfer screen



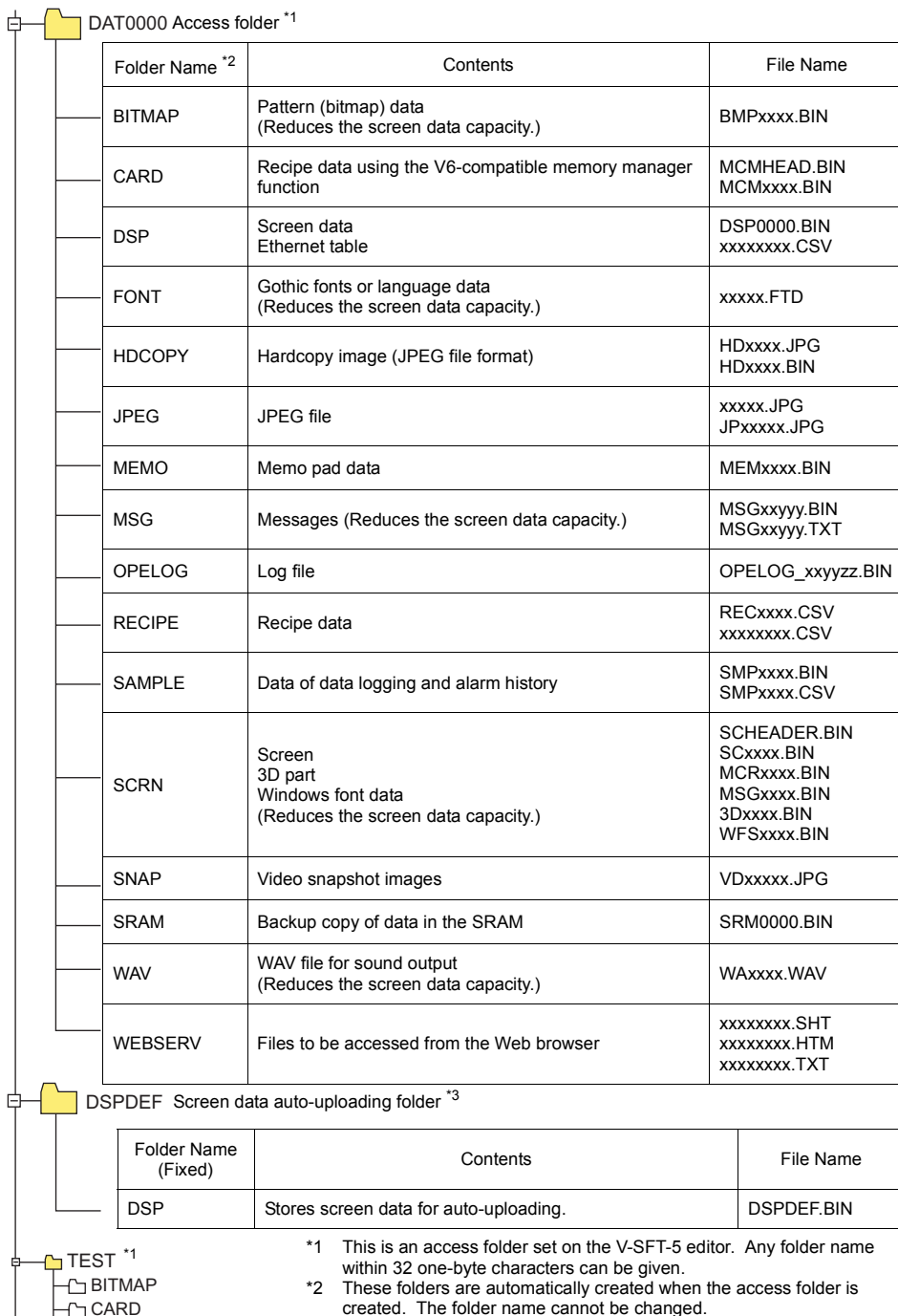
1. [Data Selection] field
 - [Screen Data] → Refer to "Transferring Screen Data from CF Card" (page 5-17).
 - [SRAM] → Refer to "Saving Backup Copies of SRAM" (page 5-22).
 - [Ethernet Table] → Refer to "Transferring Ethernet Table (Under Development)" (page 5-24).
2. [Transfer Menu] field
 - [Display <-- Card] → Used to transfer data from the CF card to the V808CH unit.
 - [Display --> Card] → Used to transfer data from the V808CH unit to the CF card.
 - [Display <--> Card] → Used to compare data between the CF card and the V808CH unit.
 - [Delete] → Used to delete data from the CF card. Refer to "Deleting Data on the CF Card" (page 5-25).

7-1. Folder Configuration in the CF Card

CF Card Folder Configuration

Folders in the CF card are configured as shown below.

CF カード



*1 This is an access folder set on the V-SFT-5 editor. Any folder name within 32 one-byte characters can be given.

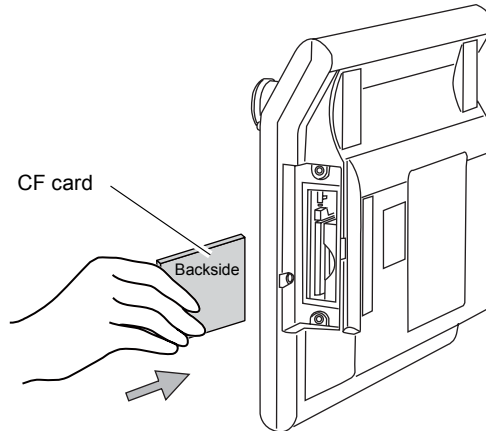
*2 These folders are automatically created when the access folder is created. The folder name cannot be changed.

*3 The folder name for screen data auto-uploading cannot be changed.

7-2. Transferring Screen Data from CF Card

The procedure for transferring data when a CF card is inserted into the built-in socket of the V808CH unit is described below.

1. Remove the two clamp screws from the CF card interface cover on the side of the V808CH unit and open the cover. Insert a CF card.

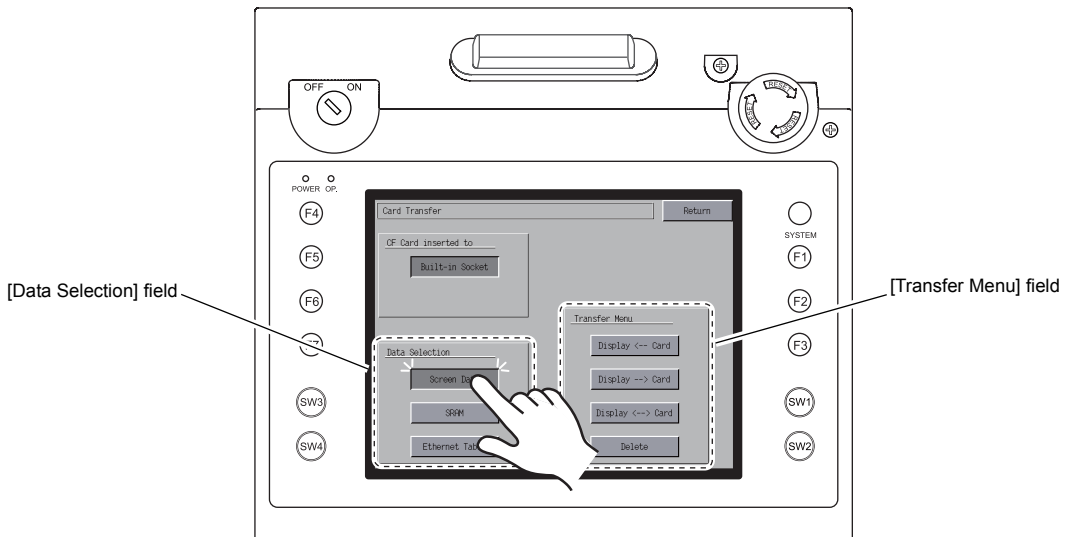


CAUTION

Do not remove or insert the CF card after step 2.

2. Press the [Card Menu] switch in the Main Menu drop-down window displayed from the Main Menu screen. The Card Transfer screen is displayed.

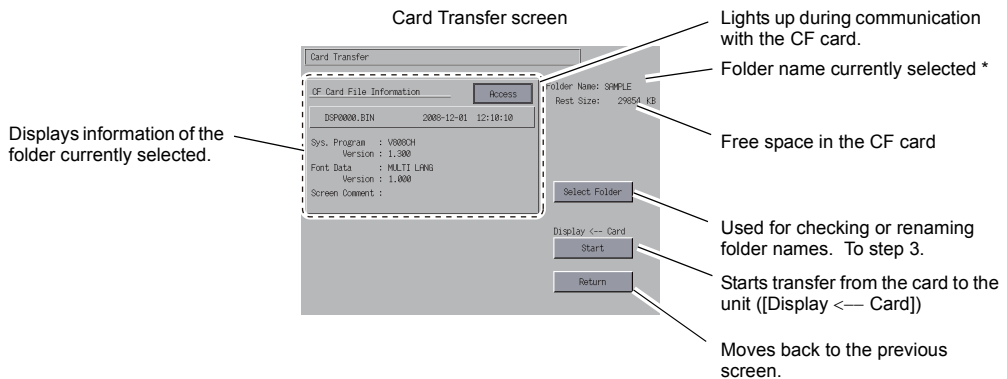
Card Transfer screen



3. Select [Screen Data] from the [Data Selection] field.
4. [Transfer Menu] field
 - For details, refer to "When [Display <-- Card] Is Selected:" (page 5-18).
 - For details, refer to "When [Display --> Card] Is Selected:" (page 5-20).
 - For details, refer to "When [Display <--> Card] Is Selected:" (page 5-21).

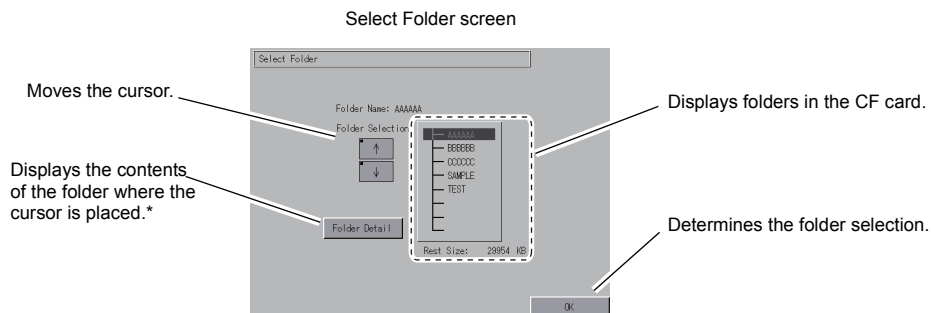
When [Display <← Card] Is Selected:

1. When [Display <← Card] is selected, the Card Transfer screen is displayed.

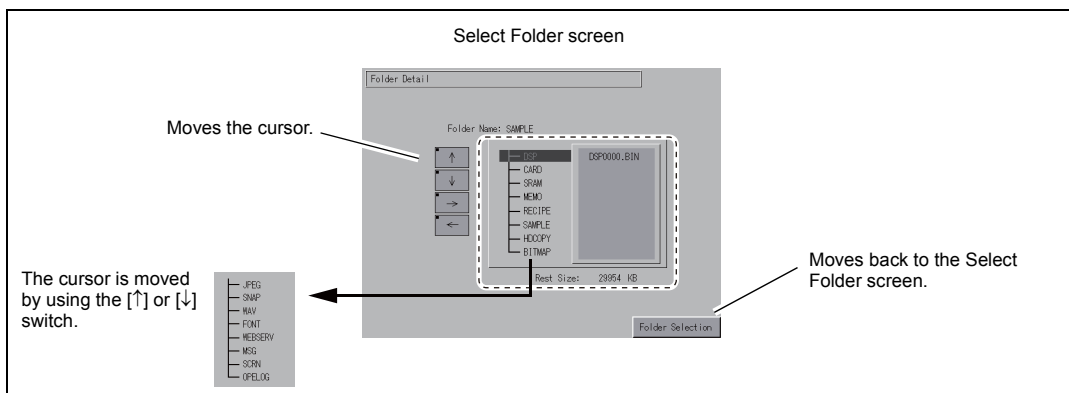


* The access folder name that is set for screen data is displayed as default. If there is no screen data in the V808CH, "DAT0000" is displayed.

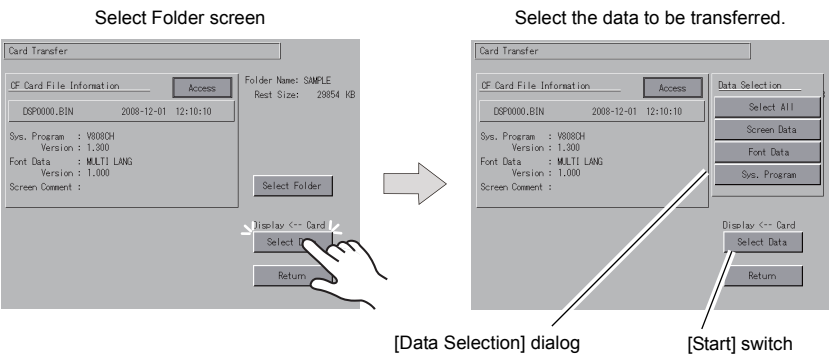
2. Checking the access folder
Check the contents of [Folder Name], [Rest Size], and [CF Card File Information]. If the correct folder is selected, go to step 4. To change the folder, go to step 3.
3. Changing the access folder (file check in the folder)
To change the access folder to another, press the [Select Folder] switch.
The Select Folder screen is displayed. Select the desired folder and press the [OK] switch.



* Pressing the [Folder Detail] switch displays the contents of the folder where the cursor is placed.

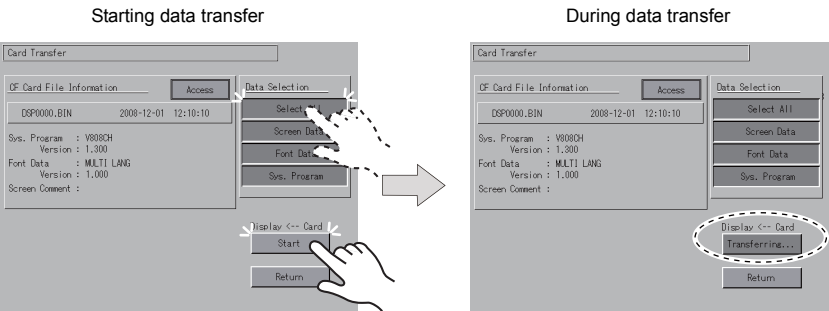


4. Data selection to be transferred
After selecting the folder, press the [Select Data] switch.
The [Data Selection] dialog is displayed, and the [Select Data] switch changes to [Start].

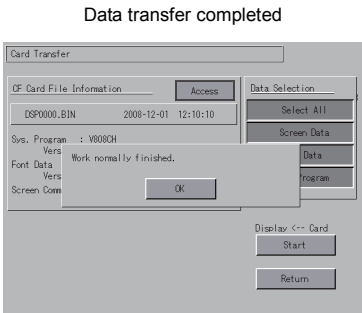


* To cancel the [Data Selection] dialog, press the [Return] switch.

5. Starting data transfer
Select the desired data, and press the [Start] switch. During data transfer, the [Start] switch changes to [Transferring].



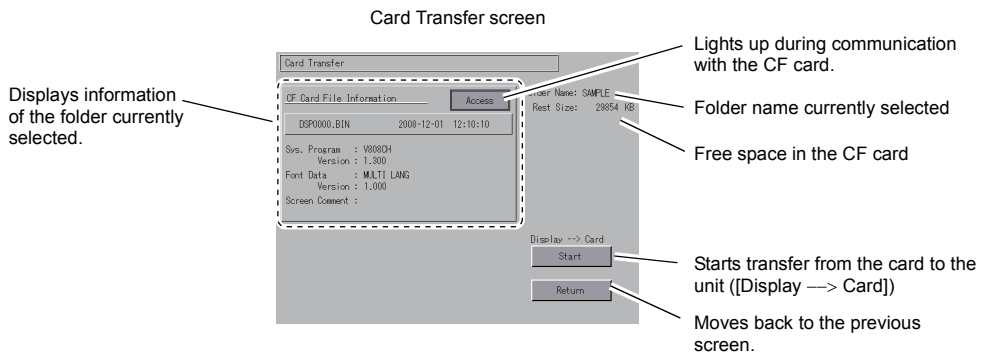
6. Data transfer completed
When the data has been transferred successfully, the following message dialog is displayed. Press the [OK] switch.
If the [Sys. Program] or [Select All] switch was selected on the [Data Selection] dialog, the Main Menu screen is automatically displayed on completion of data transfer.



* If any other message is displayed, refer to "Message Dialog Displayed during Data Transfer (between V808CH and CF Card)" (page 5-26).

When [Display → Card] Is Selected:

1. When [Display → Card] is selected, the Card Transfer screen is displayed.



2. Starting data transfer

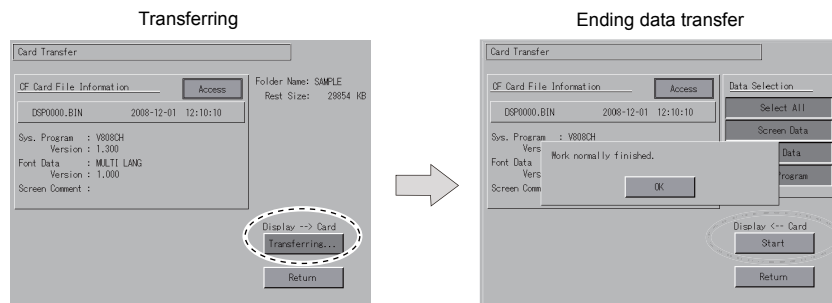
Check the folder name and CF card file information, and press the [Start] switch.

- * Note that data on the CF card is overwritten if the access folder name of screen data is the same as that in the CF card.

When the CF card file information is blank, a new file "DSP0000.BIN" is created in the DSP folder under the access folder.

3. During data transfer → data transfer completed

During data transfer, the [Start] switch changes to [Transferring]. When data has been transferred successfully, the following message dialog is displayed. Press the [OK] switch.

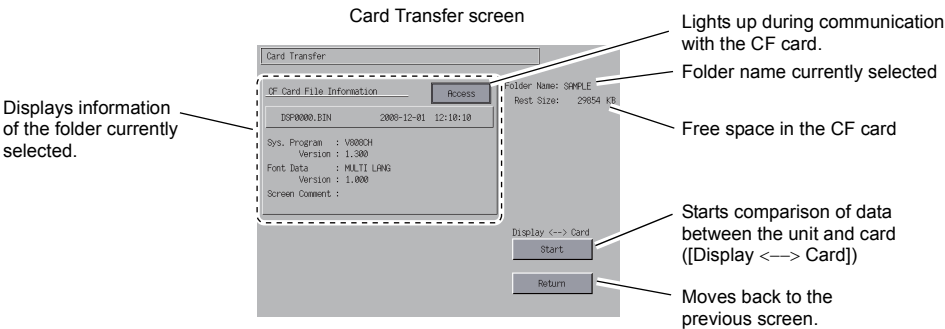


The [CF Card File Information] field shows the data that has been transferred.

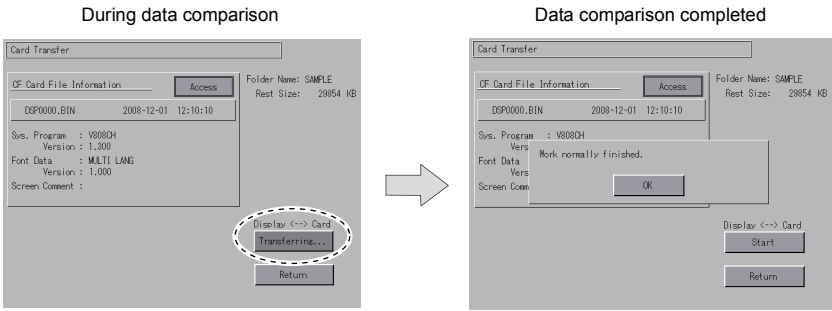
- * If any other message is displayed, refer to "Message Dialog Displayed during Data Transfer (between V808CH and CF Card)" (page 5-26).

When [Display <=> Card] Is Selected:

1. When [Display <=> Card] is selected, the Card Transfer screen is displayed.
The screen data in the unit is compared with the one in the access folder (in the DSP folder).



2. Starting data comparison
Press the [Start] switch.
3. During data comparison → data comparison completed
During data comparison, the [Start] switch changes to [Transferring]. When data comparison has been completed successfully, the following message dialog is displayed. Press the [OK] switch.

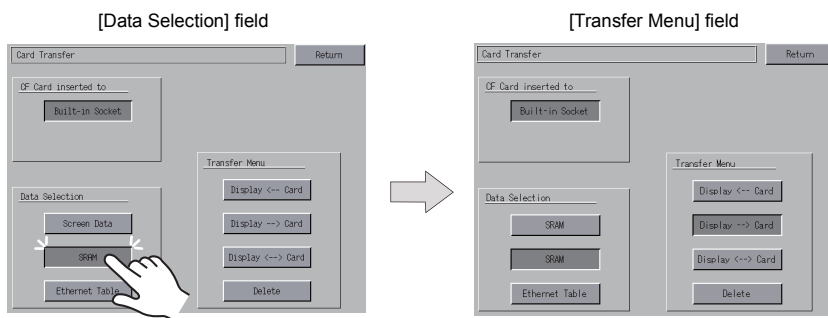


* If any other message is displayed, refer to “Message Dialog Displayed during Data Transfer (between V808CH and CF Card)” (page 5-26).

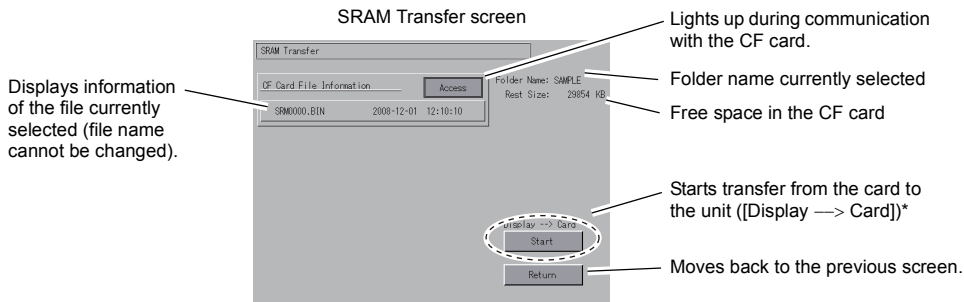
7-3. Saving Backup Copies of SRAM

This section explains the procedure for saving backup copies of the SRAM memory for battery replacement.

1. Data selection
Press the [SRAM] switch on the Card Transfer screen. When the switch is pressed, it is selected.
2. Transfer selection
Select [Display <← Card], [Display → Card] or [Display <→ Card] in the [Transfer Menu] field.

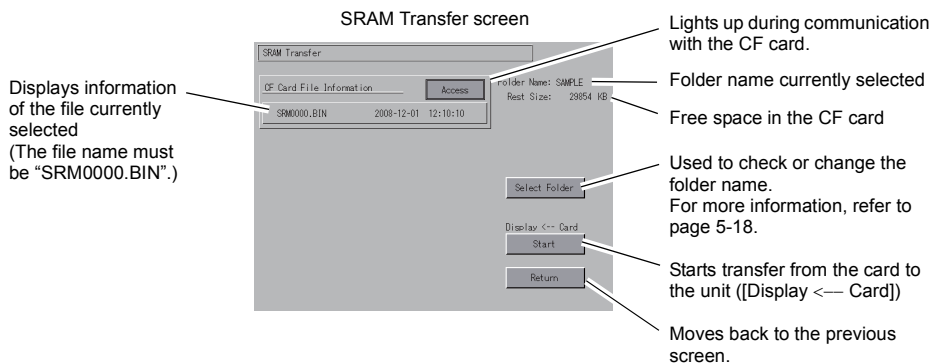


3. Checking or selecting the access folder
The SRAM Transfer screen is displayed.
 - When [Display → Card] or [Display <→ Card] is selected:
Select the CF card folder having the same name as the access folder for screen data in the V808CH. The name is shown on the screen.

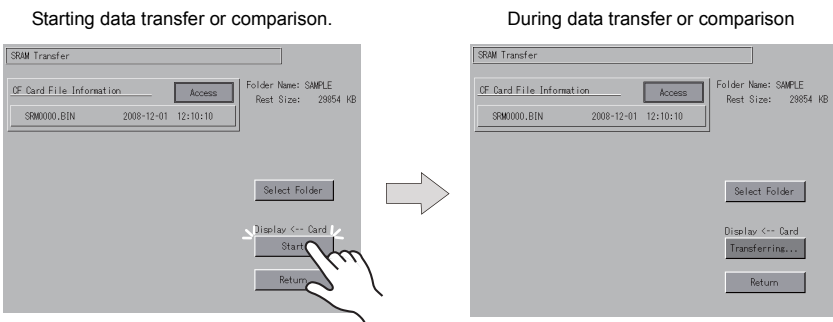


* Shows [Display <→ Card] when [Display <→ Card] is selected.

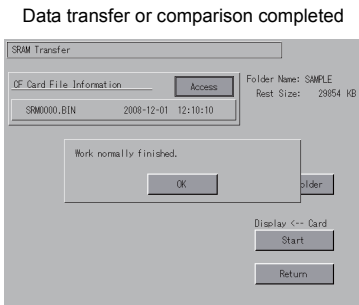
- When [Display <← Card] is selected:



4. Starting data transfer or comparison
- Check the folder name, free space and transfer menu, press the [Start] switch.
- During data transfer or comparison, the [Start] switch changes to [Transferring].



5. Data transfer completed
- When data has been transferred successfully, the following message dialog is displayed. Press the [OK] switch.



* If any other message is displayed, refer to "Message Dialog Displayed during Data Transfer (between V808CH and CF Card)" (page 5-26).

7-4. Transferring Ethernet Table (Under Development)

This section explains the procedure for transferring the Ethernet table (CSV file format *) that has been stored in the CF card on the V808CH.

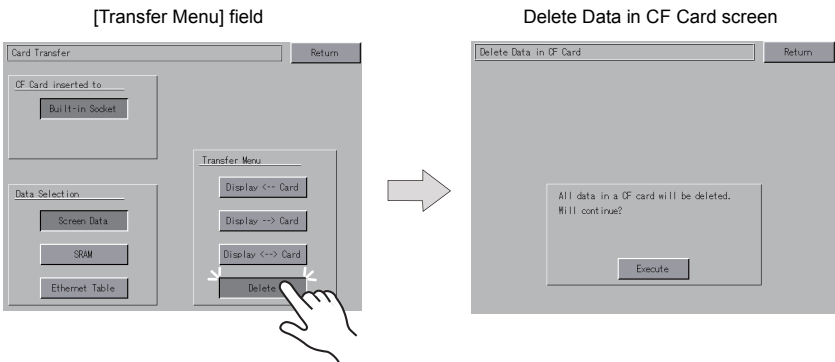
* The CSV file is stored in the DSP folder under the access folder in the CF card. For more information, refer to the V8 Series Reference Manual.

1. Data selection
Press the [Ethernet Table] switch on the Card Transfer screen. When the switch is pressed, it is selected.
2. Transfer selection
Select [Display <— Card], [Display —> Card] or [Display <—> Card] in the [Transfer Menu] field.
3. Displaying the Ethernet Table Transfer screen
The Ethernet Table Transfer screen is displayed.
 - When [Display <— Card] is selected:
[Transferring Source] is displayed in the [CF Card File Information] field.
 - When [Display —> Card] is selected:
[Transferring Target] is displayed in the [CF Card File Information] field.
 - When [Display <—> Card] Is Selected:
[Transferring Source] is displayed in the [CF Card File Information] field.
4. File selection
Select a file using the [↑] or [↓] switch. ("-----" is displayed as default (file is not selected).)
5. Starting data transfer or comparison
Press the [Start] switch. During data transfer or comparison, the [Start] switch changes to [Transferring].
6. Data transfer completed
When the data has been transferred successfully, the message "Work normally finished." is displayed. Press the [OK] switch.
 - * If any other message is displayed, refer to "Message Dialog Displayed during Data Transfer (between V808CH and CF Card)" (page 5-26).

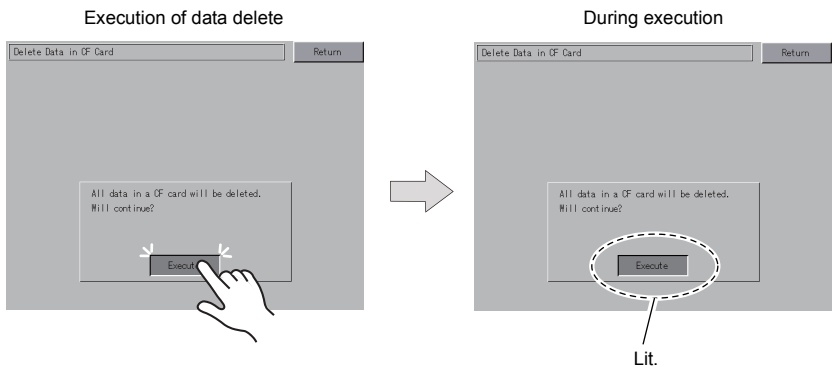
7-5. Deleting Data on the CF Card

Data on the CF card can be deleted. To delete the data, follow the procedures described below.

- 1. Transfer selection
Selecting [Delete] in the [Transfer Menu] field displays the Delete Data in CF Card screen.
To move back to the previous screen, press the [Return] switch.



- 2. Execution of data delete → during execution
Press the [Execute] switch if deleting all data on the CF card. The switch is lit for a while.



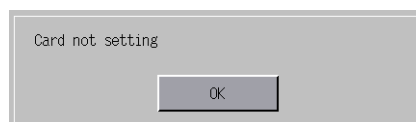
- 3. Data delete completed
When the data has been completely deleted, the message "Deleting Completed" is displayed. Data is completely deleted. Press the [Return] switch. The Card Transfer screen is displayed again.



* The data on the CF card is completely deleted; however, when the Main Menu screen is displayed again by the [Return] switch, the access folder for the screen data that has been transferred to the V808CH is automatically created.

7-6. Message Dialog Displayed during Data Transfer (between V808CH and CF Card)

If an error occurs during data transfer, the message dialog shown on the right is displayed. The other messages that may appear are as the following:

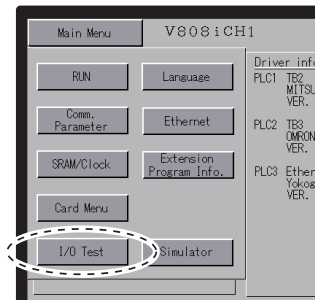


Messages	Contents
Work normally finished.	The specified operation has been concluded normally.
Card not setting	No card is inserted.
Card Capacity over	Cannot write the data into the card because the data size in the V808CH unit is larger than the capacity of the card.
Writing Error occurred.	An error occurred during writing data into the card.
Selected data does not exist.	The data does not exist in the reading target.
Data type is different.	An attempt to write to the V808CH unit was made, but the type of the card data did not match the model of the unit.
Selected data can not be read.	The data in the card cannot be read.
Reading Error occurred.	An error occurred during writing data into the flash ROM of the V808CH unit.
Data discrepant	A discrepancy was found during data comparison between the card and the V808CH unit.
Screen data on V8 will be broken.	Warning about data destruction in the V808CH unit that may occur when transferring font data larger than the present data from the card to the V808CH. (When you press the [OK] switch to continue, transfer the screen data again.)
Undefined Error occurred.	An error occurred due to some cause other than those mentioned above.

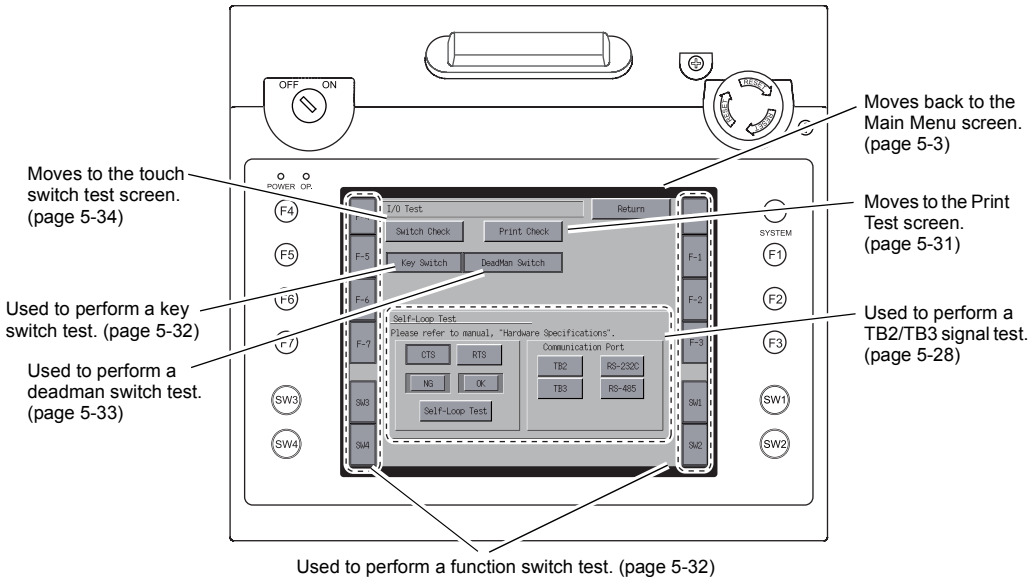
8. I/O Test

Pressing the [I/O Test] switch in the Main Menu drop-down window brings up the I/O Test screen. This screen is used to check that there is no problem with the V808CH interfaces and touch switch operation.

Main Menu drop-down window

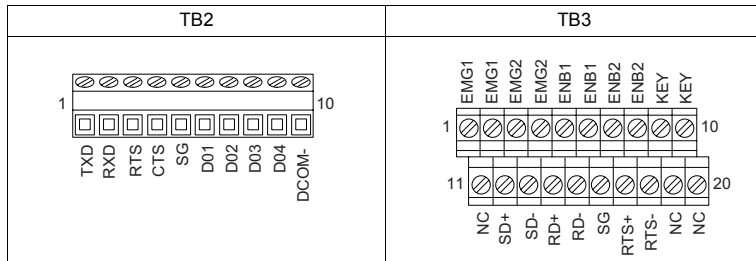


I/O Test screen



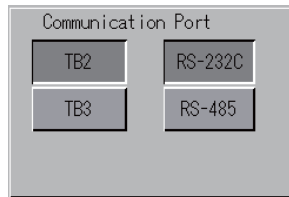
8-1. Self-loop Test

RS-232C/RS-485 signals can be checked for the terminal blocks TB2 and TB3.
Make these checks if communications with the individual controllers fail.



TB2: RS-232C Signal Test

Turn on the [TB2] switch.



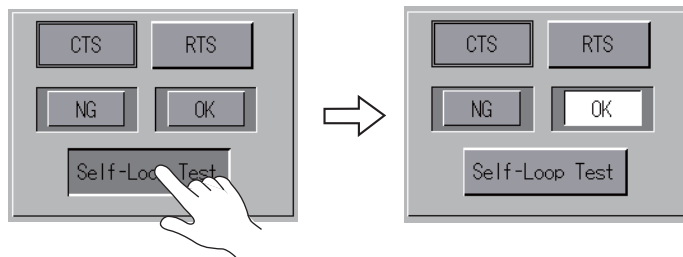
SD/RD Test

Check the signals [TXD] and [RXD].

1. Install a jumper between pins 1 and 2 of the terminal block TB2.

Name	No.	
TXD	1	□
RXD	2	

2. Press the [Self-Loop Test] switch. When the [OK] lamp lights up, the test is successfully completed.



* If the [NG] lamp lights up, pin 1 or 2 may be faulty. Contact your local distributor.

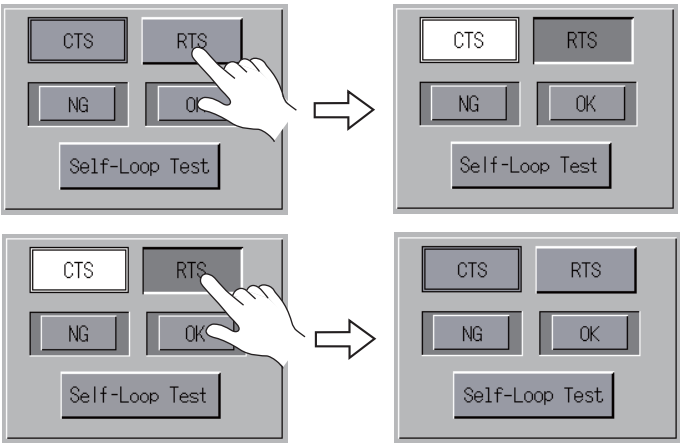
CTS/RTS Test

Check the signals [CTS] and [RTS].

- 1. Install a jumper between pins 3 (RTS) and 4 (CTS) of the terminal block TB2.

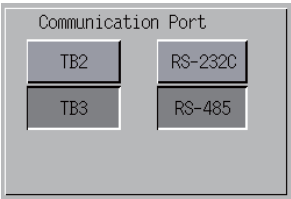
Name	No.	
RTS	3	
CTS	4	

- 2. Press the [RTS] switch and check that both [RTS] and [CTS] lamps light up at the same time. Press the [RTS] switch again and check that both [RTS] and [CTS] lamps go off at the same time.



TB3: RS-485 Signal Test

Turn on the [TB3] switch.



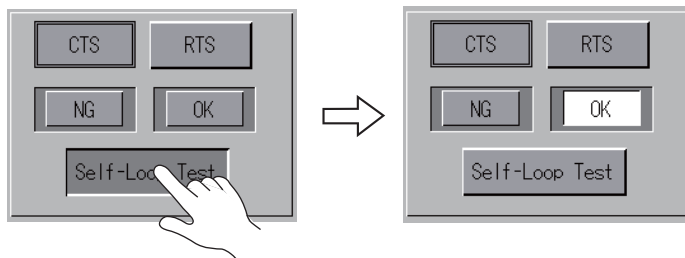
SD/RD Test

Check the signals [SD] and [RD].

- 1. Install jumpers respectively between pins 12 and 14 and between pins 13 and 15 of the terminal block TB3.

Name	No.	
+SD	12	
-SD	13	
+RD	14	
-RD	15	

2. Press the [Self-Loop Test] switch. When the [OK] lamp lights up, the test is successfully completed.



* If the [NG] lamp lights up, a pin may be faulty. Contact your local distributor.

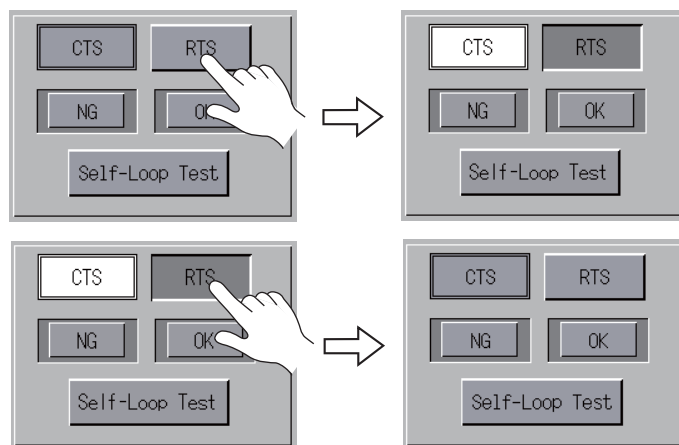
+RTS/-RTS Test

Check the signals [+RTS] and [-RTS].

1. Install jumpers respectively between pins 14 (+RD) and 17 (+RTS) and between pins 15 (-RD) and 18 (-RTS) of the terminal block TB3.

Name	No.
+RD	14
-RD	15
+RTS	17
-RTS	18

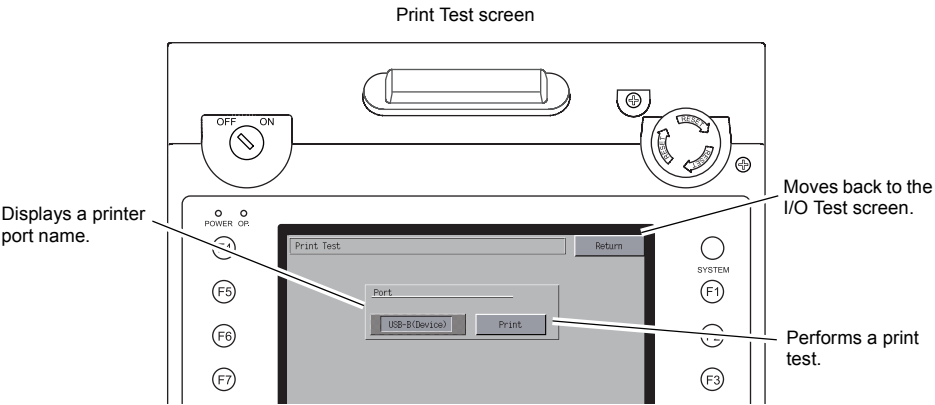
2. Press the [RTS] switch and check that both [RTS] and [CTS] lamps light up at the same time. Press the [RTS] switch again and check that both [RTS] and [CTS] lamps go off at the same time.



* Since the V808CH unit does not have [+CTS] and [-CTS] signals for the terminal block TB3 (RS-485 connection), a self-loop test should be performed by using [+RD] (pin 14) and [-RD] (pin 15) signals.

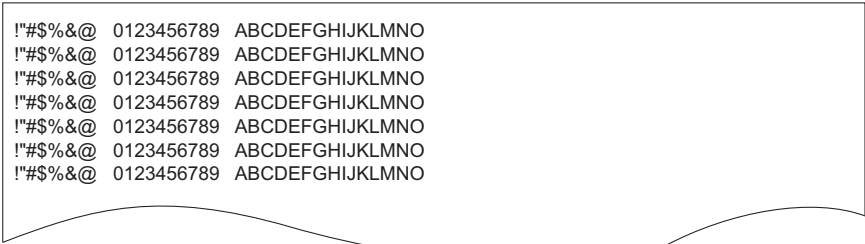
8-2. Printer Test

Pressing the [Print Check] switch on the I/O Test screen displays the Print Test screen. This screen is used to perform a print test while the USB-B port of the V808CH unit is connected to a PictBridge printer.



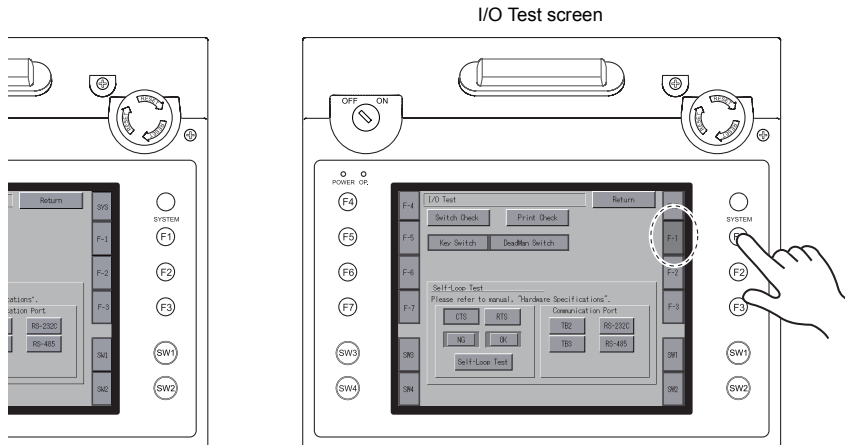
Print Test Result Example

Pressing the [Print] switch executes a print test. When the print test has been finished successfully, a test result is printed out as shown below.



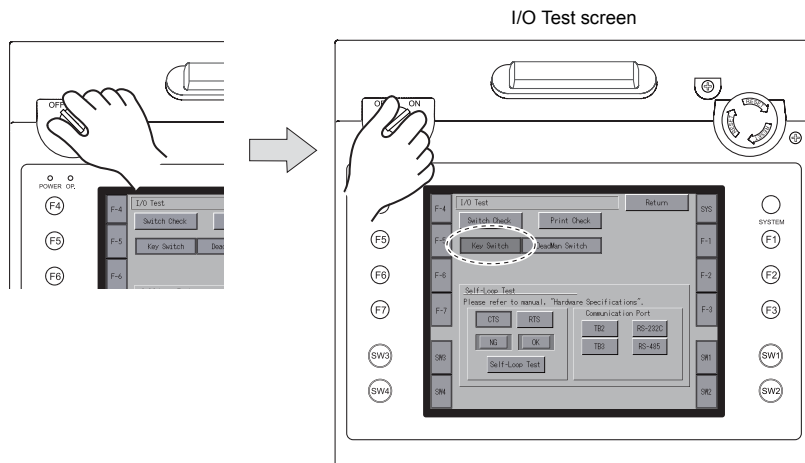
8-3. [SYSTEM] Switch & Function Switch Test

This is the menu option to check the twelve switches mounted on both sides of the V808CH unit. Hold down any switch, and check that the corresponding lamp on the screen lights up.



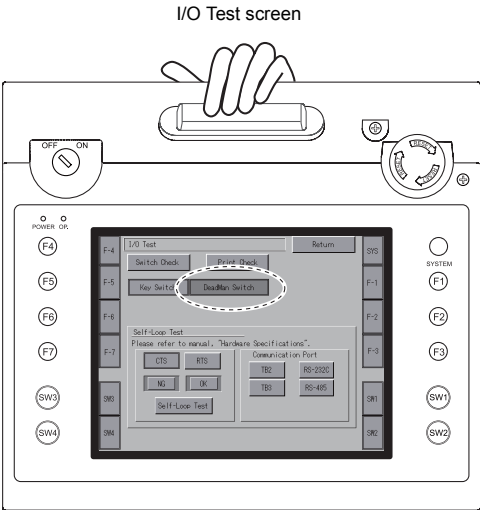
8-4. Key switch Test

This is the menu option to check the key switch mounted in the upper left corner of the unit. Turn the switch to the ON position, and check that the lamp on the screen lights up. (For the V808CH1 and V808CH3 only)



8-5. Deadman Switch Test

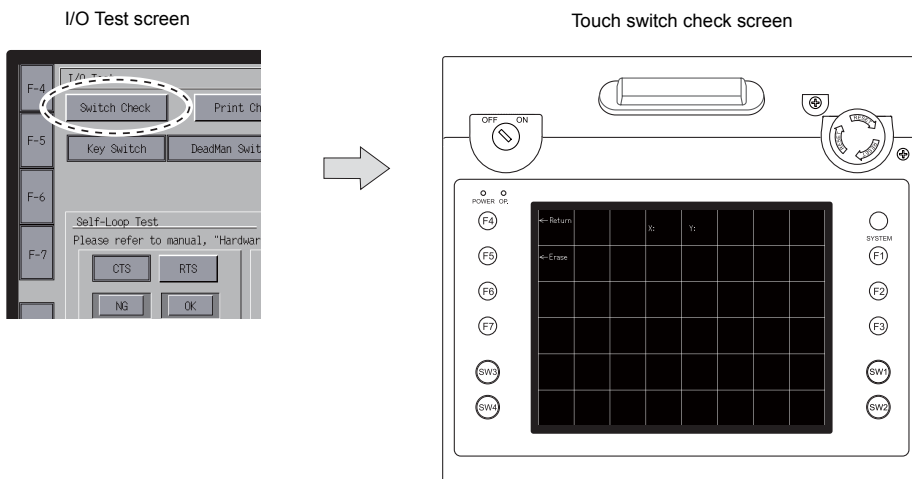
This is the menu option to check the deadman switch mounted on the upper center of the unit. Hold down the switch, and check that the lamp on the screen lights up. In the case where the deadman switch is a 3-position type, pressing the switch deeper while the lamp is already lit extinguishes the lamp.



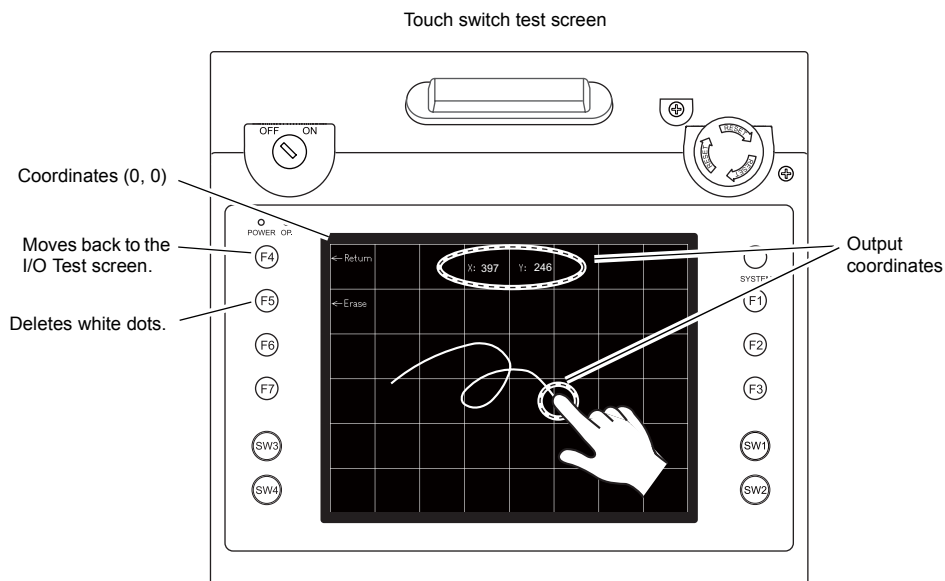
8-6. Touch Switch Test

If a touch switch does not activate at all, or if any action is implemented without pressing any touch switch, check if the touch switches on the V808CH panel are working properly.

1. Press the [Switch Check] switch. Grids appear on the screen as shown below.



2. Press a position on the panel, and check if the pressed position turns white. The white color means that the touch switch activates correctly. To move back to the I/O Test screen, press the [F4] switch.
To delete white dots, press the [F5] switch.



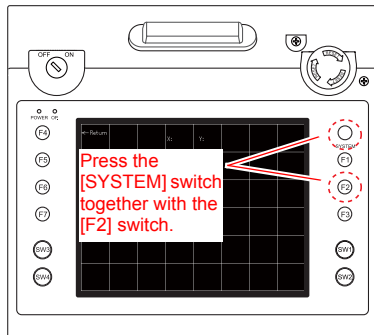
* If a position different from the pressed position turns white, refer to "Touch Switch Adjustment" (page 5-35) and adjust the touch switch position.

Touch Switch Adjustment

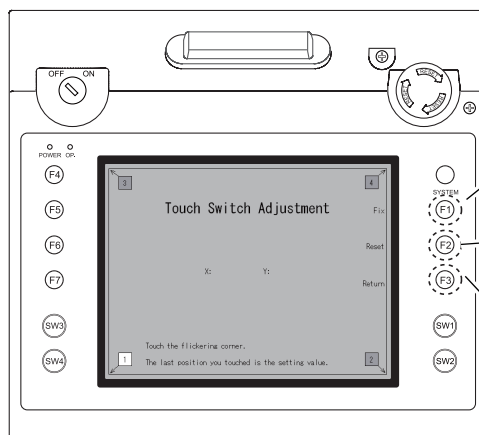
If a position different from the pressed position turns white on the touch switch test screen, follow the steps described below to adjust the touch switch position.

1. Hold down the [SYSTEM] switch and press the [F2] switch on the touch switch test screen. The Touch Switch Adjustment screen appears.

Touch switch test screen



Touch Switch Adjustment screen



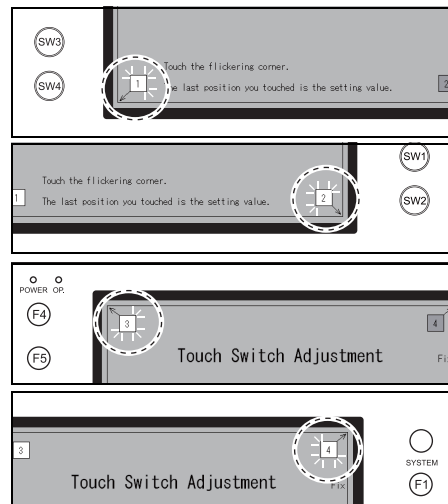
After adjustments made at corners 1-4, press this for determination.

Conducts a readjustment.

Moves back to the touch switch test screen.

2. Press on "1" that is flashing at the corner. When the finger is released, a beep sounds and the position is set. "2" flashes.*
3. Press on "2" that is flashing at the corner. When the finger is released, a beep sounds and the position is set. "3" flashes.*
4. Press on "3" that is flashing at the corner. When the finger is released, a beep sounds and the position is set. "4" flashes.*
5. Press on "4" that is flashing at the corner. When the finger is released, a beep sounds and the position is set.*

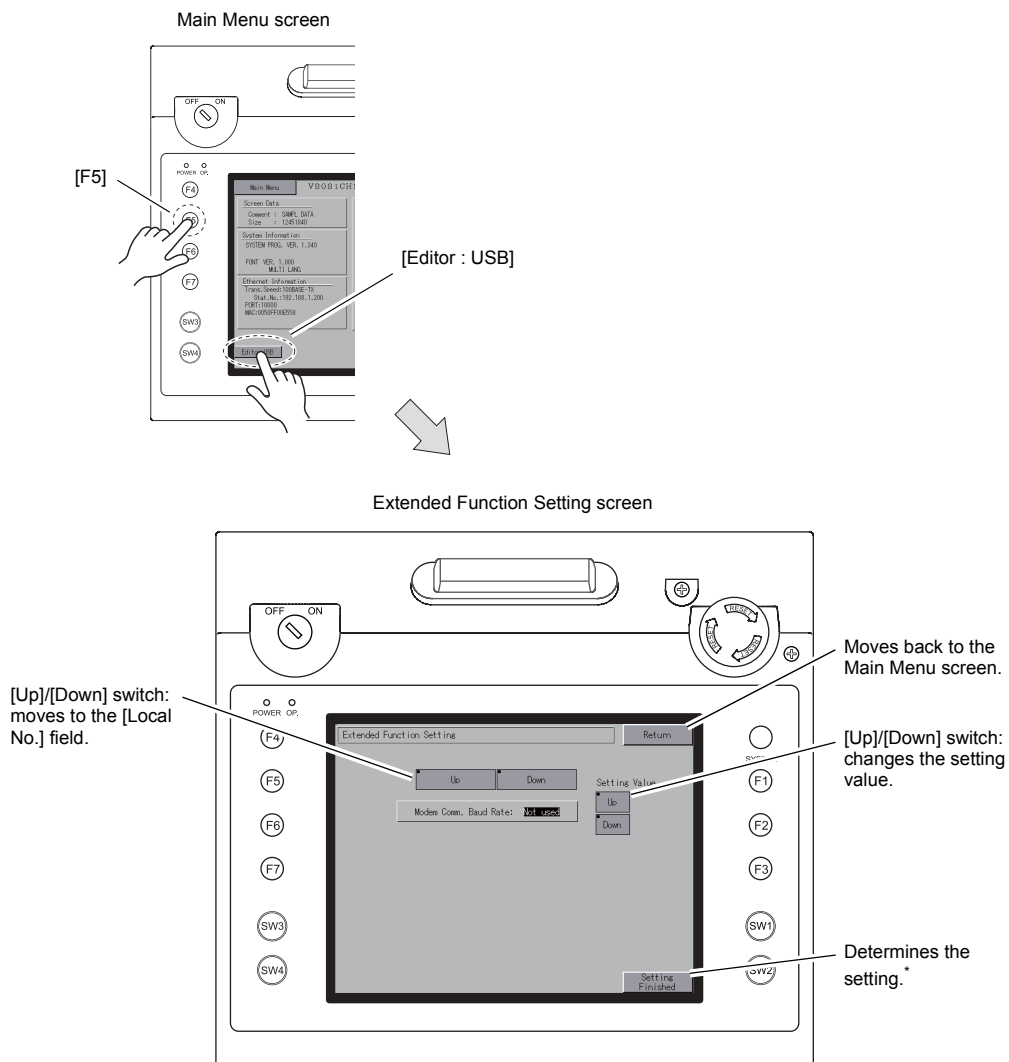
* To re-set the positions, press the [F2] switch and follow step 2 and after.



6. Press the [F1] switch. A long beep sounds and the positions are determined. The touch switch test screen is displayed again.

9. Extended Function Setting

When you press the [Editor: USB] switch on the Main Menu screen and the [F5] switch at the same time, the Extended Function Setting screen is displayed. This screen is used to set the local port number for V-Link, Modbus slave or multi-link communication.



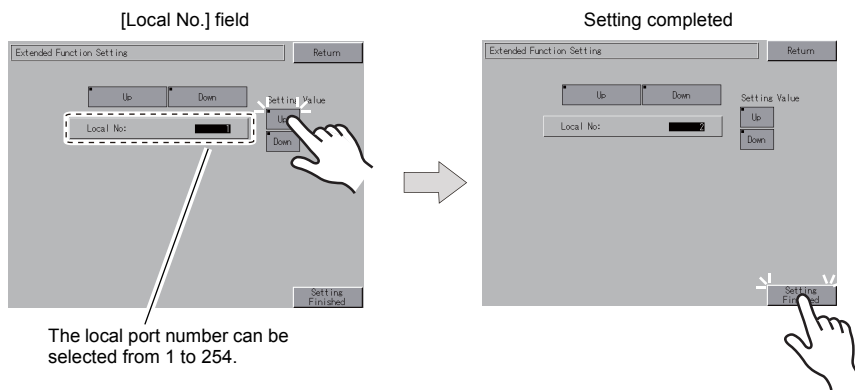
* The function switches and switches on the Main Menu screen are inactive for 15 seconds after the [Setting Finished] switch is pressed.

Setting Local Port Number

For V-Link, Modbus slave or multi-link communication, set the local port number from the Main Menu screen.

(A local port number can be set when [PLCxxx: V-Link] or [PLCxxx: Modbus Slave (RTU)] is checked in the [Device Connection Setting] dialog ([System Setting] → [Device Connection Setting]) or [] Set Local Port No. in Main Menu is checked ([Communication Setting] → [Connection Mode: Multi-link]).)

1. Displaying the [Local No.] field
Press the [Down] switch to display the [Local No.] field.
2. Setting the local port number
Select a local port number using the [Up] or [Down] switch. The local port number can be selected from 1 to 254. Press the [Setting Finished] switch.



3. The Main Menu screen is automatically displayed again.

MEMO

Please use this page freely.

6 Error Handling

1. Error Messages
2. Troubleshooting

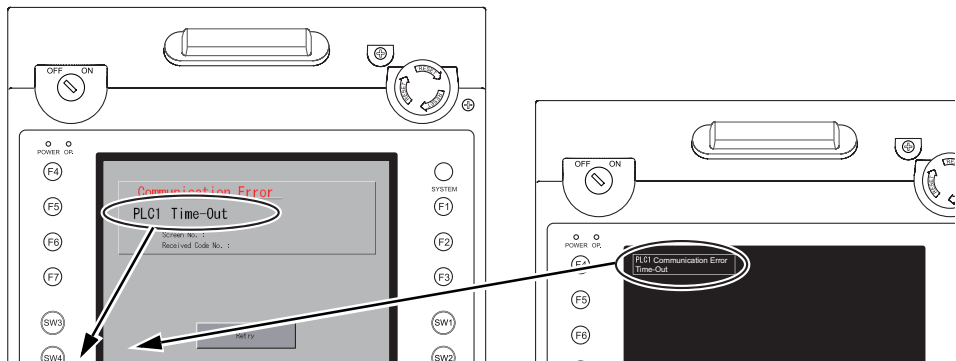
1. Error Messages

There are five kinds of error messages displayed on the V808CH:

1. Communication Error
2. Data Loading
3. Warning
4. SYSTEM ERROR
5. Touch switch is active.

1. Communication Error

When communication is not established between the V808CH and a controller, or any abnormality (noise etc.) is detected, the following messages are displayed on the V808CH.



Error Messages	Contents	Solution	Remarks
Time-Out	Although a request to send is given to a controller, no answer is returned within the specified time.	1. Check settings in the [Communication Setting] tab window of the [Device Connection Setting] dialog.	1
		2. Check the cable connection.	2
Parity	An error occurred in parity check.	3. Data may be disrupted because of noise. Fix noise.	1
		2. Check the cable connection.	2
Framing	Although the stop bit must be [1], it is detected as [0].	1. Check settings in the [Communication Setting] tab window of the [Device Connection Setting] dialog.	1
		2. Check the cables and wiring.	2
Overrun	After one character is received, the next character is received before internal processing is completed.	3. Data may be disrupted because of noise. Fix noise.	1
		2. Check the settings in the [Communication Setting] tab window of the [Device Connection Setting] dialog.	2
Check code error	The check code in the controller response was not correct.	1. Check settings in the [Communication Setting] tab window of the [Device Connection Setting] dialog.	1
		2. Data may be disrupted because of noise. Fix noise.	2

* If the above error messages are displayed on the V808CH without establishing communication between V8 and PLC, test the solution of remark "1". If the error occurs suddenly in communication, test the solution of remark "2".

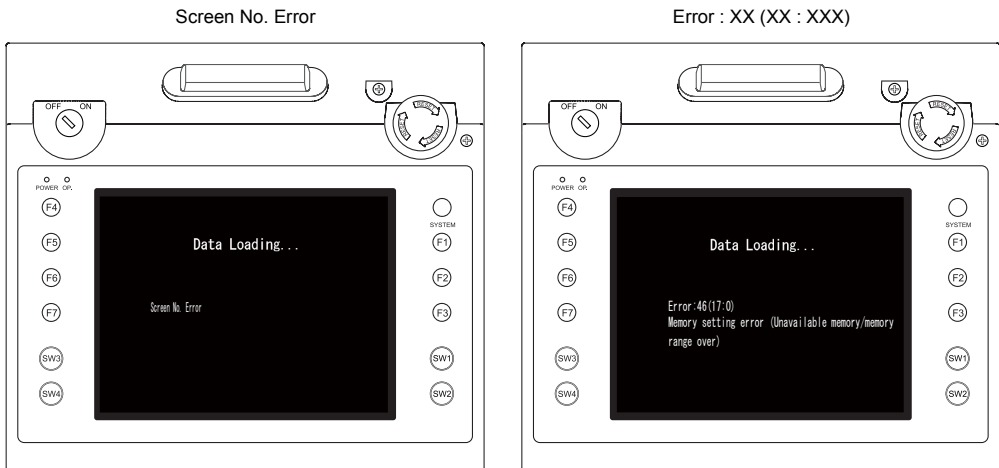
Error Messages	Contents	Solution
Error code received	An error code was sent by a controller. (NAK)	Examine the controller error code and solve the problem.
Break	The controller's SD remains at the low level.	Examine the connection between the controller's SD and the V808CH's RD.
Invalid memory (Mitsubishi CPU)	You specified an address that exceeds the memory range of the PLC that you are linked to.	Check the type and range of memory that you set.
Invalid CPU model (Mitsubishi CPU)	The PLC currently being supported does not have a corresponding CPU.	Confirm whether or not the CPU that you are using can be used with the V808CH.
Format	The code of the received data is invalid.	1. Confirm link unit settings. (After making settings, cut power to the controller.) 2. On the V-SFT-5 editor, select [System Setting] → [Device Connection Setting] and check the settings. 3. If errors only occur from time to time, a noise-based communication error may be present.
Compare (HIDIC S10)	Transmission data and received data are different.	
NAK	A NAK code is received.	
Transaction Error (Allen-Bradley PLC)	Transmitted transaction data and received transaction data are not in agreement.	
Communication Error	An unclear communication error is detected.	
Count error (Mitsubishi CPU and Q link unit)	The expected data amount is different from the count value.	
Command error (Mitsubishi CPU and Q link unit)	The response code differs from the expected code.	Contact your local distributor.
Invalid cassette (Mitsubishi ACPU)	This cassette is not included in the memory cassettes currently being supported.	
Password error (Mitsubishi QCPU)	The password is incorrect.	

Ethernet

Error Messages	Contents	Solution
Ethernet Error:XXXX	The Ethernet status is saved at system memory address \$s518 and a code other than "0" (normal) is received. XXXX : Error No.	For the contents and solution to each error number, refer to Appendix 5 of the V8 Series Connection Manual separately provided.

2. Data Loading

If an error is detected on the screen data in the RUN mode, the following messages are displayed on the V808CH.



Error Messages	Contents	Solution
Screen No. Error	There is no setting for the received screen.	At the start of communications, the V808CH regards the value in the read area "n + 2" as the screen number. Check that this value is an existing screen number on the controller.
Error : XX (XX : XXX)	There is an error in the created screen data.	According to the item number and the sub-item number displayed on the V808CH, find the edited screen where the error occurs. Check the contents of the error (error number) and remove the error. Error : XX (XX : XXX) Sub-item No. Item No. Error No. For details on the item number and sub-item number, refer to the V8 Series Reference Manual.

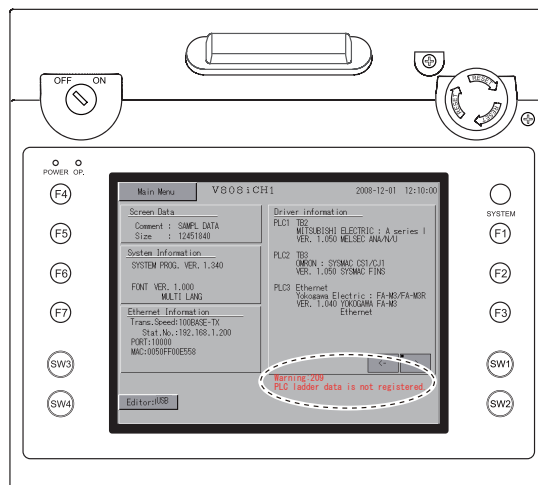
* About error numbers

The V808CH is provided with the following error numbers additionally. (For other error numbers, refer to the V8 Series Reference Manual.)

Error No.	Contents	Solution
175	MONITOUCH does not support the ladder communication function.	Check the ladder communication settings.
197	TB2 is a RS232C-specific port.	Check the port set in the screen data.
198	TB3 is a RS422/RS485-specific port.	Check the port set in the screen data.

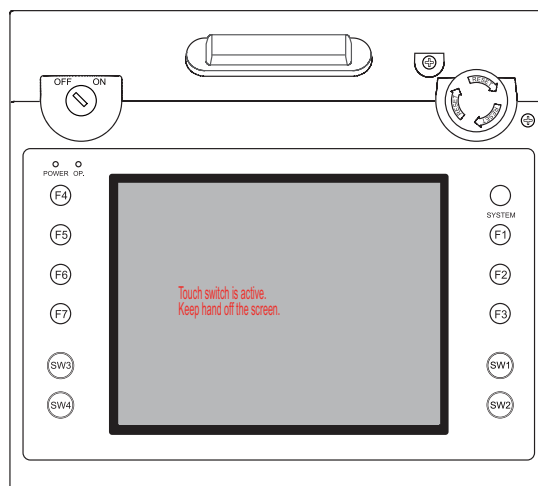
3. Warning

A message may be displayed on the Main Menu screen. This is a warning message. For the warning details and solutions, refer to the V8 Series Reference Manual and correct screen data.



4. Touch Switch Is Active

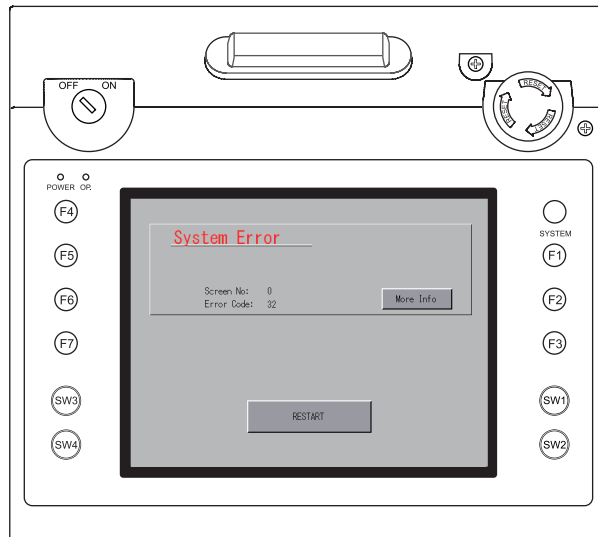
If the power is turned off while a touch switch is activated, the error screen shown on the right is displayed. Remove your finger from the screen. If the error screen remains displayed, contact your local distributor.



5. SYSTEM ERROR

When a system error is detected, the following error screen is displayed on the V808CH.

System Error screen



Error Code: XX

- 1: Watchdog timer error
- 11: Switch table error
- 30: Request for displaying full error
- 31: Memory allocation system error
- 32: General exceptions/MMU address system error
- 33: RTOS system error
- 34: Memory error
- 35: Inaccurate memory error

The source of the error could be one of the following three problems.

- 1) Program crash due to noise
- 2) Hardware problem
- 3) Bad program

If any of these errors occurs, contact your local distributor.

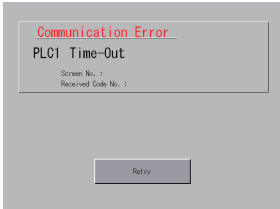
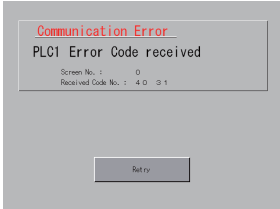
2. Troubleshooting

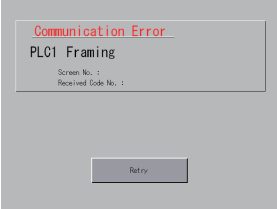
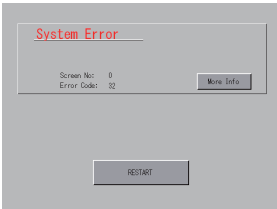
In the Event of an Error

Perform the steps below:

1. If the current error matches a symptom in the following table, correct it by following the instructions provided.
2. If the error does not match the symptoms in the table, contact your local distributor.
Please provide the distributor with the information on the MONITOUCH model, serial number, symptom of the error, error message, etc.

Probable Symptoms

Symptom	Cause	Solution
MONITOUCH is connected to controllers; however, communication fails. "Communication Error: Time-Out" appears on the screen. 	Probable causes are: 1) Cables are not connected correctly or any cable is disconnected. 2) Parameter settings in the controller are not correct or disagree with the V808CH settings. 3) The MONITOUCH is faulty.	Solutions are: 1) Check the cable connection. 2) Recheck the parameter settings in the controller. 3) Perform a self-loop test on the I/O Test screen (page 5-28). If the test is not successful, please return MONITOUCH to your local distributor immediately.
Communications have been successful. However, opening a certain page always causes a "Communication Error: Error code received" error. 	The error code denotes a controller error (NAK). 1) When the error code appears only on a certain screen, a memory address that does not exist on the controller may be set on the V808CH screen. 2) When the error code appears at power-on, the memory address set for buffering area or initial macro or in the [Read/Write Area] tab window ([System Setting] → [Device Connection Setting]) may not exist in the controller.	1) Check if any address outside the allowable range for controller memory is set on the screen. 2) Check if the address set for buffering area or initial macro or in the [Read/Write Area] tab window ([System Setting] → [Device Connection Setting]) is outside the allowable range for the controller memory.

Symptom	Cause	Solution
Communications have been successful. However, "Communication Error: Parity" or "Communication Error: Framing" suddenly occurs. 	Noise may cause the error.	Check if appropriate measures are taken against noise. Example: Check if communication and power cables are bundled together. Try to attach a ferrite core to the communication cable. Try to attach a noise filter to the power supply, etc.
"SYSTEM ERROR: xx" occurs. 	The following causes are probable, depending on the symptoms. 1) Turning the power off and back on corrects the error. ↓ Communication failed because of improper timing. 2) Turning the power off and back on does not correct the error. ↓ A certain condition always causes the error. Or MONITOUCH is faulty. 3) A CF card is inserted. ↓ The CF card (front and back) may be reversed. If none of the above matches your error, contact your local distributor.	1) If communication is stable after turning the power on again, continue and observe operation. 2) Make a note of the information on error number, etc. displayed on the screen and contact your local distributor. 3) Check that the inserted CF card faces the correct side.
Switches do not work.	1) Switches do not work in the RUN mode. A beep sounds. ↓ Is the switch interlock enabled? 2) Switch activation position is wrong. On the I/O Test screen displayed from the Main Menu screen, press the [Switch Check] switch. On the touch switch test screen, a position different from the pressed position is activated. ↓ The switch activation position may be misaligned. 3) Switches do not work even in the STOP mode. On the I/O Test screen displayed from the Main Menu screen, press the [Switch Check] switch. When the touch switch test screen is pressed, nowhere is activated. ↓ MONITOUCH switches may be faulty.	1) Check the settings of switch functions, etc. on the V-SFT-5 editor. 2) Perform a touch switch adjustment (page 5-35). 3) Return MONITOUCH to your local distributor.

Symptom	Cause	Solution
The screen becomes dark or black.	1) Touching the screen restores it to the previous illuminated state. ↓ The backlight operates automatically as preset. 2) Touching the screen does not restore it. However, the POWER lamp is lit. ↓ The backlight may be at the end of its life. Or MONITOUCH may be faulty.	1) The time for turning off the backlight can be changed on the V-SFT-5 editor. 2) Return MONITOUCH to your local distributor.
Screen data cannot be transferred.	1) Screen data transfer has never succeeded. ↓ There may be some errors in the V-SFT-5 settings. 2) Transfer is impossible. ↓ There may be some errors in the Ethernet or USB settings. 3) Screen data transfer was possible, but is disabled now. ↓ The MONITOUCH may be faulty, or there may be some errors in the settings.	1) Check that the USB/Ethernet selection is correct in the V-SFT-5 editor. 2) Transfer via Ethernet Check that the IP addresses set on the V-SFT-5 editor and MONITOUCH are the same. Also check if any error due to Ethernet connection occurs on MONITOUCH. Transfer via USB Is the USB driver recognized? Has the driver been installed successfully (page 2-18)? If the problem persists, contact your local distributor. 3) Check the your computer's device manager to see if the USB driver is recognized. (page 2-22)

7 Inspection and Maintenance

1. Inspection and Maintenance
2. Warranty Policy

1. Inspection and Maintenance

**DANGER**

Be sure to turn off the power before conducting inspection or maintenance. Failure to do so could cause an electric shock or damage to the unit.

Daily Inspection

- Check that the screws on the V808CH are tightened firmly.
- Check that the connectors and terminal screws used for connection with other devices are tightened firmly.
- If the display surface or frame is dirty, wipe it with a soft cloth soaked in alcohol (commercially available).
- Conduct periodical inspection once or twice a year. The number of inspections may be increased as necessary if facilities are relocated or modified, or the environment is hot, humid, or dusty.

Periodical Inspection

Inspect the following points periodically.

- Are the ambient temperature and humidity appropriate?
0 to +40°C, 85%RH or less
- Are the environmental conditions appropriate?
No excessive dust, and no conductive dust
- Does the atmosphere contain no corrosive gas?
- Is the source voltage in the allowable range?
With DC power supply: 24 VDC $\pm$ 10%
- Are the V808CH mounting screws tightened firmly?
- Are the connectors and terminal screws used for connection with other devices tightened firmly?
- Is the lithium primary battery within the expiry date?
About 5 years from the date of your purchase

2. Warranty Policy

Inquiries about Failure

Please direct inquiries about failure or repair to your local distributor.

Your information on the MONITOUCH model, serial number, symptom of the failure, error message (if shown), etc. will be appreciated.

- * An inquiry form is provided on the final page (page 7-3) of this chapter. The form may be used for your inquiry.

Warranty Period

The product is under warranty for one year after the date of purchase or delivery to the specified place. On the assumption that the maximum stock period of the product after manufacture is 6 months, the warranty period is limited to 18 months (checked by the serial number) after manufacture. When a warranty period is specified in the contract, however, the period in the contract takes precedence.

Free-of-charge Repair

If the product fails before the expiry of the warranty, it will be repaired free of charge.

However, repair of any failure resulting from the causes below will be chargeable even within the warranty period.

- Breakage of or damage to the appearance (case or surface sheet), touch switches, LCD, or other components due to dropping, impact, or mishandling
- LCD or backlight at the end of life
- Fusion of a printed circuit board pattern associated with connection to external devices, or fusion of a pattern in the terminal block or connector section of a printed circuit board caused by short-circuiting of external load circuit
- Overvoltage or different voltage applied due to wiring mistake (power supply terminal, external communication terminal, or other terminal blocks)
- Failure caused by lightning surge
- Failure due to the entry of conductive substances, water, solvent, particles, etc. under inappropriate environmental conditions
- Failure due to inappropriate environmental conditions (e.g. corrosive gas or high humidity)
- Failure due to vibration or impact exceeding the specified level
- Disassembly and modification by the customer or failure obviously resulting from improper handling by the customer

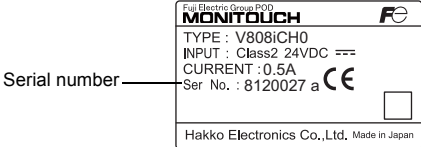
Chargeable Repair

Any failure that occurs after the expiry of the warranty or does not satisfy the requirements for the free-of-charge repair will be repaired on a chargeable basis.

Inquiry Form

Your name			
Company name			
Contact	Phone		Fax
	E-mail		
Model code(*1)			Ser. No. (*1)
MONITOUCH version (*2)	SYS. PROG. Ver. :		I/F DRV. Ver. :
Purchased from: (Distributor)			
Person in charge		Date of purchase	
Symptom			
(Please describe the symptom of the failure and also include the error message if any is displayed.)			

*1 See the label on the back of MONITOUCH for the model code and serial number (seven digits plus one letter of the alphabet).



*2 Enter the version if it can be checked.
The version is displayed on the Main Menu screen (page 5-3).

MEMO

Please use this page freely.

8 V-SFT Setting

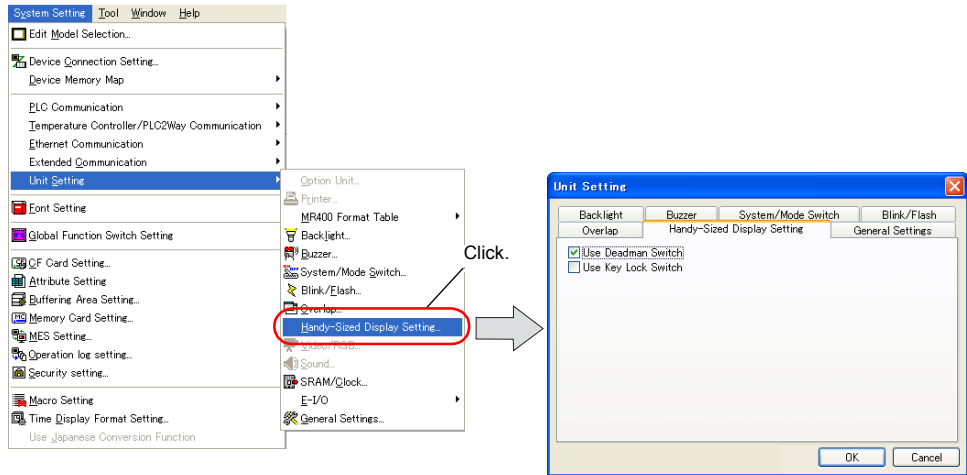
1. Handy-sized Display Setting
2. Macro
3. System Memory (\$s)

1. Handy-sized Display Setting

Whether to use the deadman switch and key switch is selectable in the V-SFT editor.

Setting

Click [System Setting] → [Unit Setting] → [Handy-Sized Display Setting]. The following dialog is displayed.



Item	Contents
☐ Use Deadman Switch ^{*1}	Select whether to use the deadman switch during screen operation. ^{*2} To make the screen always operative, uncheck the option. (checked as default)
☐ Use Key Lock Switch	Select whether to use the key switch. To make the screen always operative irrespective of the key switch, uncheck the option. (unchecked as default)

^{*1} This setting is applicable only to V808CH0, V808CH1, V808CH2, and V808CH3.

^{*2} If you select whether to use the deadman switch in RUN mode, use the macro command SET_DSW. For details, refer to "2. Macro" on page 8-2.

2. Macro

If you select whether to use the deadman switch in RUN mode, use the system command SYS (SET_DSW).

SYS (SET_DSW) F1

Function: Deadman Switch Setting

This macro selects whether to use the deadman switch on the V808CH unit.

Memory

	Internal memory	PLC1 - 8 memory	Memory card	Constant
F1	⊙			

○ : setting permitted (indirect not permitted) ⊙ : setting permitted (indirect permitted)

Range

	Value
F1	0: Invalid 1: Valid

Operation Example

To enable the deadman switch being currently disabled:

```
$u100 = 1 (W) [valid]
SYS (SET_DSW) $u100
```

Supplemental Remarks

- This macro command takes effect only on V808CH and V608CH.
- At power-on, the setting in the [Handy-Sized Display Setting] becomes valid (as default). Even if the macro has been set, it is disabled at power-off (the default will be taken again)
- The macro execution result is stored in memory at \$s72.

Code (DEC)	Contents
0	Normal
-1	Execution error

3. System Memory (\$s)

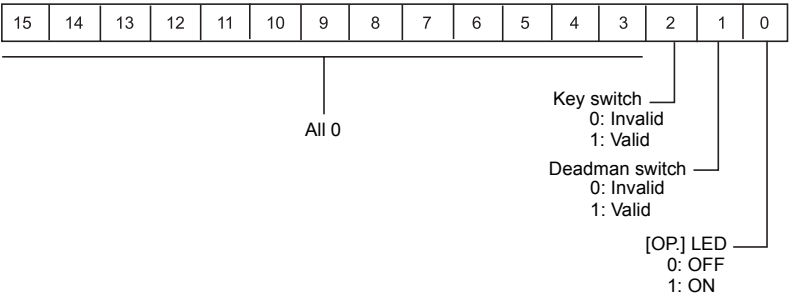
The system memory (\$s) is available to see the current status of the deadman switch or the key switch, or the answerback signals from the external output switches.

Table

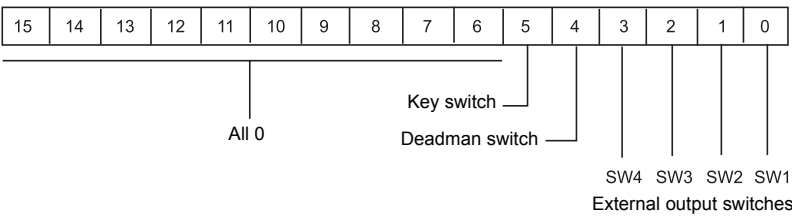
Address	Contents	Memory Type
\$s490	V808CH Deadman switch/key switch setting	← V
\$s491	V800CH Answerback signal from each switch	

Address Details

- \$s490
The information on the current status is output, concerning whether the use of the deadman/key switch is selected or whether the screen operation is enabled.



- \$s491
Answerback signals from the deadman switch, key switch, and external output switches (function switches SW1 - SW4) are output.



MEMO

Please use this page freely.



Hakko Electronics Co., Ltd.
www.monitouch.com

Sales

**890-1, Kamikashiwano-machi, Hakusan-shi,
Ishikawa, 924-0035 Japan**

TEL +81-76-274-2144 FAX +81-76-274-5208

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