

1. Specifications

General Specifications

Item		S808	S806	
			S806C	S806M
Standards	CE Marking	EN61000-6-2 EN61000-6-4		
	UL/cUL	UL60950-1	UL508	
Power Supply	Permissible Range of Voltage	24 VDC \pm 10% *1		
	Permissible Momentary Power Failure	For 24 VDC: Within 1 ms		
	Current Consumption	0.35 A or less	0.25 A or less	0.20 A or less
	Power Consumption (Maximum Rating)	9.0 W or less	6.5 W or less	4.5 W or less
	Rush Current	For 24 VDC: 18 A, 1 ms or less		For 24 VDC: 10 A, 1 ms or less
	Withstand Voltage	DC external terminals to FG: 500 VAC, 1 minute		
Insulation Resistance		500 VDC, 10 M Ω or above		
Physical Environment	Operational Ambient Temperature	0°C to +50°C *2		
	Storage Ambient Temperature	-10°C to +60°C *2		
	Operational Ambient Humidity	85% RH or less (without dew condensation) *2		
	Storage Ambient Temperature	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 using a noise simulator)		
	Static Electricity Discharge Resistance	Compliant with IEC61000-4-2, contact: 6 kV, air: 8 kV		
Mounting Conditions	Weight	Approx. 1.1 kg	Approx. 0.6 kg	
	Dimensions W \times H \times D	233.0 \times 178.0 \times 59.8 mm	182.5 \times 138.8 \times 44.8 mm	
	Panel Cut-out Dimensions	220.5 ^{+0.5} _{-0.5} \times 165.5 ^{+0.5} _{-0.5} mm	174.0 ^{+0.5} _{-0.5} \times 131.0 ^{+0.5} _{-0.5} mm	
Case Color		Black		
Material		PC / PS		

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

*2 Use MONITOUCH in the environment whose wet-bulb temperature is 39°C or less. Otherwise, MONITOUCH may be damaged.

*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.

UL/cUL Approval

The S8 series is the UL/cUL-approved product.

For S808:

S808 conforms to the following two standards. (File No.: E185413 (UL60950-1))

- UL60950-1 Information Technology Equipment - Safety - Part 1: General Requirements
- CSA-C22.2 No. 60950-1 Information Technology Equipment - Safety - Part 1: General Requirements

For S806:

S806 conforms to the following two standards. (File No.: E313548 (UL508))

- UL508 Industrial Control Equipment
- CSA-C22.2 No. 142-M1987 Process Control Equipment

UL Listing Application for a System Equipped with the S8 Series

- The back panel of the S8 series is not approved as an enclosure. For UL listing application, build the S8 series in the system, and configure an enclosure so that the entire system will be UL-approved.
- Use the S8 series indoors only.
- Mount it on a flat surface so that it will comply with the enclosure type 1.
- Use a bare cable for wiring the power supply.

Terminal Screw		Power Cable
Screw Size	Tightening Torque	
M3.5	0.8 N•m	AWG14 - 16

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

CE Marking

- The S8 series complies with following EMC Directives: EN61000-6-2, EN61000-6-4
- The S8 series is identified as a class-A product in industrial environments. In the case of use in a domestic environment, the S8 series is likely to cause electromagnetic interference. Preventive measures should thereby be taken as appropriate.

Installation Specifications

Item		Specifications
Grounding		Less than 100 Ω, FG/SG separated
Protection Structure	Front Panel *1	Compliant with IP65 (when using waterproof gasket) *2
	Rear Case	Compliant with IP20
Cooling System		Cooling naturally
Structure		Inserted in a mounting panel
Appropriate Mounting Panel Thickness		1.5 to 5 mm

*1 Protection structure for the front when the S8 series is mounted on the mounting panel

*2 You are recommended to use the mounting panel whose thickness (steel, stainless) is 3.0 mm or more to keep the unit compliant with IP65. The strength differs depending on the material of the mounting panel. Check the environment where the S8 series is used.

Display Specifications

Item	S808C	S806C	S806M
Display Device	TFT color	STN color	STN monochrome
Display Size	8.4-inch	5.7-inch	
Colors	256 colors (without blinking) 128 colors (16-color blinking)		8 grayscales (with blinking)
Display Resolution (W × H)	640 × 480 dots	320 × 240 dots	
Dot Pitch (W × H)	0.267 × 0.267 mm	0.12 × 0.36 mm	0.36 × 0.36 mm
Backlight	Cold cathode tube	LED	
Backlight Life (average life of backlight only)	Approx. 50,000 hours (at the normal temperature 25°C)	Approx. 40,000 hours (at the normal temperature 25°C)	Approx. 50,000 hours (at the normal temperature 25°C)
Backlight Auto OFF Function	Always ON, random setting		
Brightness Adjustment	Not provided		
Contrast Adjustment	Not provided	Contrast adjustment screen: 155 levels Macro: 155 levels	
Surface Sheet Material	PET, 188 μm		
POWER Lamp	ON when the power is supplied		

Touch Switch Specifications

Item	Specifications
Method	Analog resistance film type
Number of Switches	1024 × 1024
Mechanical Life	One million activations or more
Surface Treatment	Hard-coated, anti-glare treatment 5%

Interface Specifications

Item		Specifications	
D-sub 9-pin (COM1/2)	COM1	Applicable Standards	RS-422/485
		Synchronization	Asynchronous type
		Data Length	7- or 8-bit
		Parity	None, odd, even
		Stop Bit	1- or 2-bit
		Baud Rate	4800, 9600, 19200, 38400, 57600, 76800, 115 kbps (187500 bps for MPI connection *)
		Applications	PLC, temperature controller, etc.
	COM2	Applicable Standards	RS-232C
		Synchronization	Asynchronous type
		Data Length	7- or 8-bit
		Parity	None, odd, even
		Stop Bit	1- or 2-bit
		Baud Rate	4800, 9600, 19200, 38400, 57600, 76800, 115 kbps
		Applications	PLC, temperature controller, barcode reader, etc.
USB Connector (USB-B)	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

* Only for the S808C, S806C and S806M20. For more information, refer to the S8 Series Connection Manual.

Clock and Backup Memory Specifications (S808C / S806C / S806M20)

Item	Specifications
Battery Specification	Coin-type lithium primary cell
Backup Memory	SRAM 128 kbytes
Backup Period	5 years from the date of manufacturing (ambient temperature at 25°C)
Battery Voltage Drop Detection	Provided (internal memory of 167 allocated)
Calendar Accuracy	Monthly deviation ± 90 sec (ambient temperature at 25°C)*

* Time loss is approximately 90 seconds a month in an ambient temperature of 25°C in the non-energized state (backup with battery). Depending on the ambient temperature, the calendar may lose 356 seconds or advance 189 seconds in a month at the maximum. 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/XP 64 Edition/ Vista 32-bit compatible) Memory: 512 Mbytes or more Capacity of hard disk required: Free space of approx. 850 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	Latin 1	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		Bitmap font Windows 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			320 × 240	
	1/4-size	80 characters × 60 lines			40 characters × 30 lines	
	1-byte	80 characters × 30 lines			40 characters × 15 lines	
	2-byte	40 characters × 30 lines			20 characters × 15 lines	
Character Properties	Display Properties	Normal, reverse, blink, bold, shadow, transparent				
	Colors	S808C, S806C: 256 colors (without blinking), 128 colors (with 16-color blinking) S806M: 8 grayscales (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	S808C, S806C: 256 colors (without blinking), 128 colors (with 16-color blinking) S806M: 8 grayscales (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 S8 Series Reference Manual.

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

Function Performance Specifications

Item		Specifications	
		S808	S806
Screens		Max. 4000	
Screen Memory		Flash memory: Approx. 2.25 Mbytes (not including fonts)	
Switch		1024 per screen	192 per screen
Switch Actions		Set, reset, momentary, alternate, to light	
Lamp		Reverse, blink, exchange of graphics 1024 per screen	Reverse, blink, exchange of graphics 192 per screen
Graph		Pie, bar, panel meter and closed area graph: No limitation ^{*1} Statistics and trend graphs: Max. 256 per layer ^{*2}	
Data Setting	Numerical Data Display	No limitation ^{*1}	
	Character Display	No limitation ^{*1}	
	Message Display	Display resolution: 640 × 480: Max. 80 characters 320 × 240: Max. 40 characters No limitation ^{*1}	
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 × 2 (PLC1, 2)	
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 The number of setting memory locations varies depending on the model. It is limited to 1024 per screen for the S808, and 256 per screen for the S806.

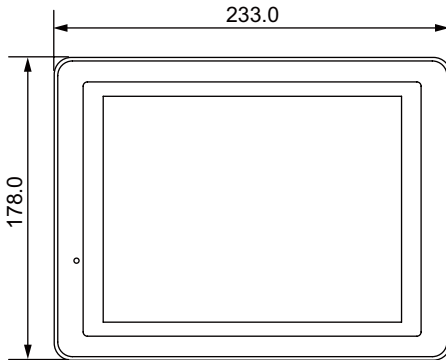
*2 Layer: 4 per screen (base + 3 overlap displays)

2. Dimensions and Panel Cut-out

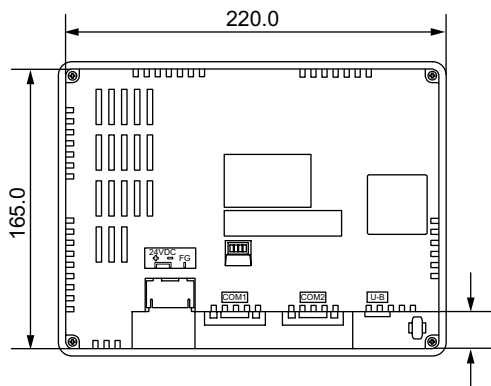
External Dimensions and Panel Cut-out Dimensions for S808

- Front View

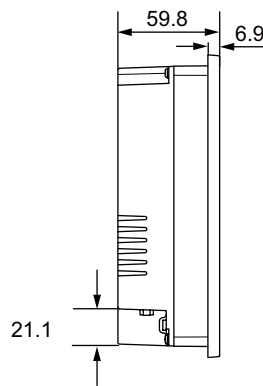
(Unit: mm)



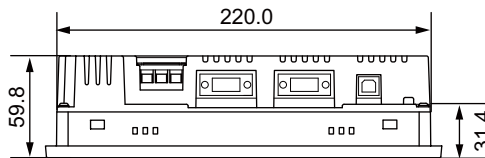
- Rear View



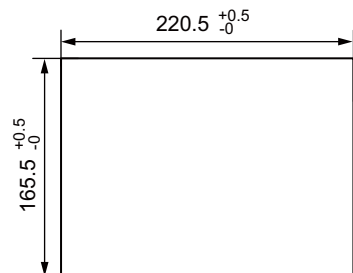
- Side View



- Bottom View



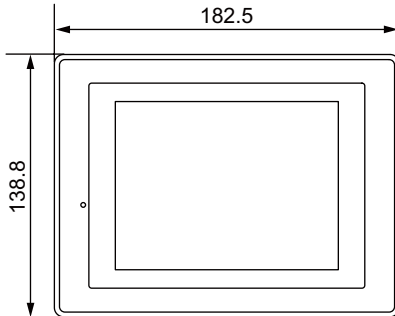
- Panel Cut-out Dimensions



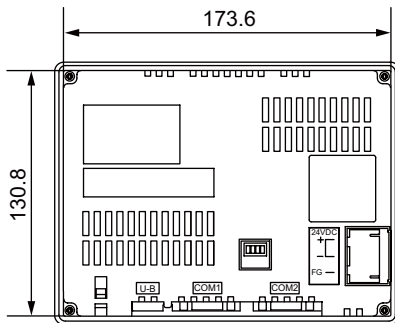
External Dimensions and Panel Cut-out Dimensions for S806

- Front View

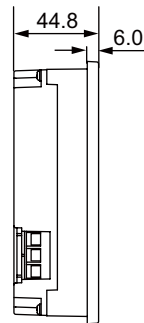
(Unit: mm)



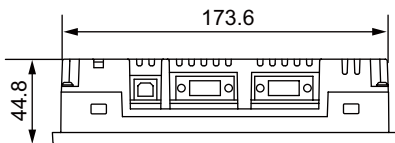
- Rear View



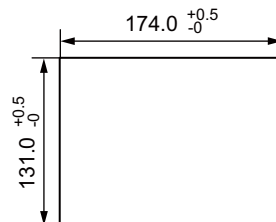
- Side View



- Bottom View

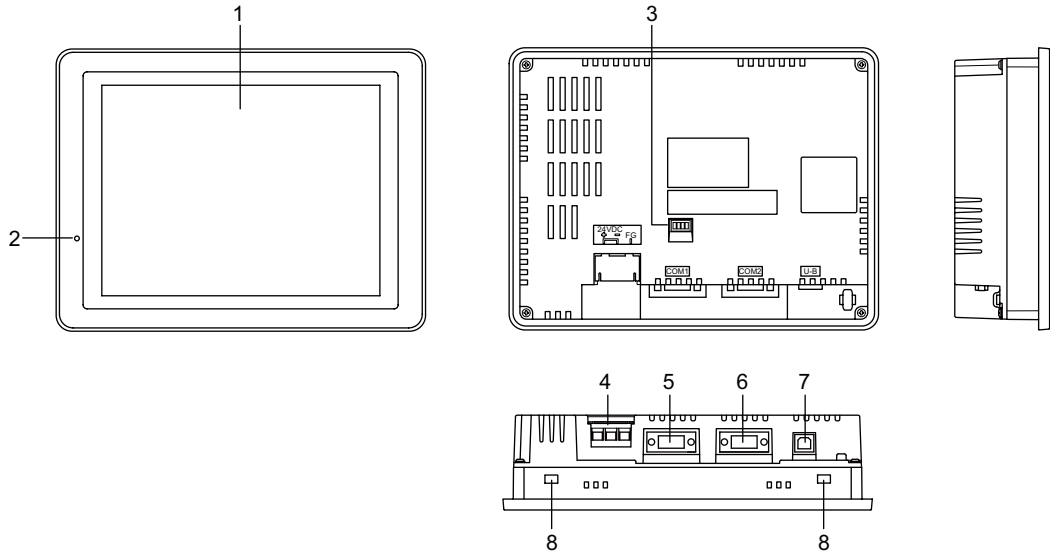


- Panel Cut-out Dimensions

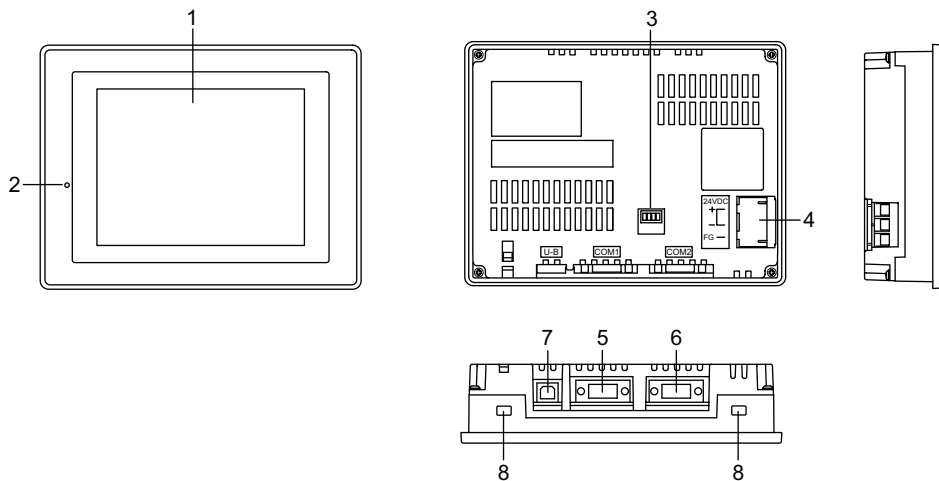


3. Names and Functions of Components

S808



S806



1. Display
This is the display unit.
2. Power lamp (POWER)
Illuminates in green when the power is supplied to the S8 series.
3. DIP switch S808C/S806C/S806M20
Used for setting the terminating resistance of the RS-422/485 signal line of COM1.
4. Power supply terminal block
Supplies the power (24 VDC) to the S8 series.

5. RS-422/RS-485 communication connector (COM1)
Used for connecting a controller (PLC, temperature controller, inverter, etc.) via RS-422/RS-485.
6. RS-232C communication connector (COM2)
Used for connecting a controller (PLC, temperature controller, inverter, etc.) or a barcode reader via RS-232C.
7. USB-B (slave port)
Used for transferring screen data or connecting a PictBridge-compatible printer.
8. Mounting holes
Used for inserting fixtures when securing the S8 series to the mounting panel.

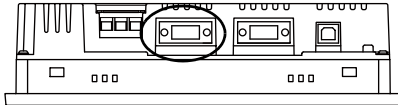
4. Serial Connector

COM1: RS-422/485 Communication Connector

This connector is used for communication with a controller via RS-422/RS-485.

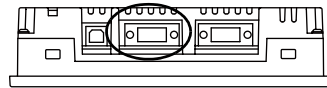
- S808

Bottom View



- S806

Bottom View



The serial connector pins (COM1) correspond to signals as given below.

COM1 (D-sub 9-pin, female)	Pin No.	Signal	Contents
	1	+RD	Receive data (+)
	2	-RD	Receive data (-)
	3	-SD	Send data (-)
	4	+SD	Send data (+)
	5	SG	Signal ground
	6	NC	Not used
	7		
	8		
	9	+5V/+3.3V	Use prohibited ^{*1}

*1 +5 V (S808) or +3.3 V (S806) is output from pin No. 9.
It is used as the power supply for the external terminating resistance. It cannot be used as an external power supply.

Recommended Connector

The following connector is recommended for a self-made cable.

Recommended connector	DDK's 17JE-23090-02(D8C)-CG	D-sub 9-pin / male / inch screw thread (#4-40UNC) type / with hood / lead- and cadmium-free
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Unavailable Models

The following models cannot be connected at COM1.

Connected Device	Manufacturer	Model
PLC	MITSUBISHI ELECTRIC	A series CPU
		QnA series CPU
		FX series CPU (FX1, FX2)
	KEYENCE	KZ-A500 CPU

Connection with PLC/Temperature Controller

The PLC or temperature controller can be connected.

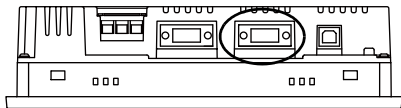
For details on available models or settings on the V-SFT-5, refer to the S8 Series Connection Manual.

COM2: RS-232C Communication Connector

This connector is used for communication with a controller or a barcode reader via RS-232C.

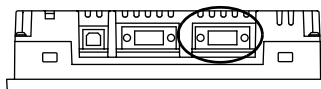
- S808

Bottom View



- S806

Bottom View



The serial connector pins (COM2) correspond to signals as given below.

COM2 (D-sub 9-pin, male)	Pin No.	Signal	Contents
	1	NC	Not used
	2	RD	Receive data
	3	SD	Send data
	4	NC	Not used
	5	SG	Signal ground
	6	NC	Not used
	7	RTS	Request to send
	8	CTS	Clear to send
	9	NC	Not used

Recommended Connector

The following connector is recommended for a self-made cable.

Recommended connector	DDK's 17JE-13090-02(D8C)-CG	D-sub 9-pin / female / inch screw thread (#4-40UNC) type / with hood / lead- and cadmium-free
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Connection with PLC/Temperature Controller

The PLC or temperature controller can be connected.
 For details on available models or settings on the V-SFT-5, refer to the S8 Series Connection Manual.

Connection with Barcode Reader

The barcode reader can be connected to read barcode data.
 For details on settings on the V-SFT-5, refer to the S8 Series Connection Manual.

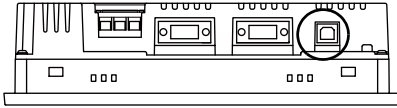
5. USB Connector

USB-B (Slave Port)

This connector is used for screen data transfer or connection with a PictBridge-compatible printer.

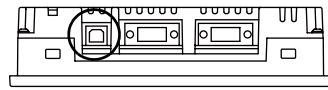
- S808

Bottom View



- S806

Bottom View



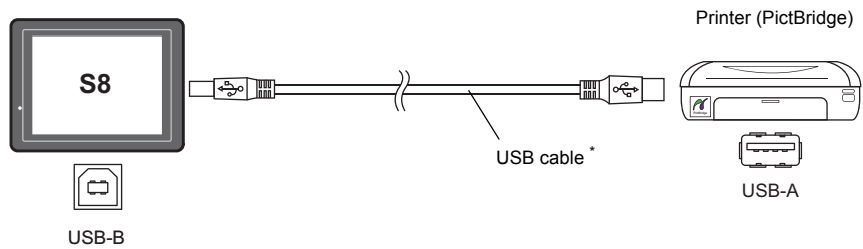
Enlarged View



Printer (PictBridge)

Screen hard copy, historical data or data sheet can be printed out from the PictBridge-compatible printer.

Connection Example



* Use a commercially available USB cable. You are recommended to use a shielded twist-pair USB cable of 5 m in length.

Available Printer

Any PictBridge-compatible printer can be connected.

V-SFT-5 Setting

Select [System Setting] → [Device Connection Setting] → [Others] → [Printer], and select "PictBridge" for [Type] in the [Printer] tab window.