TECHNOSHOT
TS1000 Smart series

July 2018

Fuji Electric Co., Ltd.

Ver.1.0

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Fe Fuji Electric
Innovating Energy Technology

- **Supports remote operation via VNC server**
- **Complies with several global standards (CE / KC / UL / cUL)**
- **Expands FROM capacity by 220%* (26MB)** **Compared to TS1000 series*

TS1070S
TS1070Si CE ⟦C⟧ ᶜ(UL)ᵤₛ LISTED

TS1100Si CE ⟦C⟧ ᶜ(UL)ᵤₛ LISTED

Fe TECHNOSHOT
Fe MONITOUCH

Fe TECHNOSHOT
Fe MONITOUCH

\<Model Code\>

T S 1 □ □ 0 S □

Size

07: 7.0" widescreen
10: 10.2" widescreen

Interface

i: w/ Built-in Ethernet port
None: w/o built-in Ethernet port

| **WVGA** | **64K Colors** | **TFT** | **LED** Backlight | **3ch** Serial | **Master/ Slave USB** | **Ethernet** (I type only) |

2. Specifications

Item		TS1070S	TS1070Si	TS1100Si
Main unit	Screen size	7.0" widescreen		10.2" widescreen
	Display device	TFT color		
	Resolution	800 x 480 dots		
	Colors	65,536 colors		
	Backlight	LED		
	Touch screen	Analog resistive		
	Certifications	CE / KC / UL / cUL		
User memory	FROM	26MB		
	SRAM	128KB		
External interface	COM1 D-Sub9 pin (F)	RS-422 / RS-485 (4-wire/2-wire) Data length: 7/8 bits　Parity: even/odd/none　Stop bit: 1/2 bits Baud rate: 4,800/9,600/19,200/38,400/57,600/76,800/115,200/187,500 bps[*1]		
	COM2/COM3 D-Sub9 pin (M)	COM2: RS-232C, COM3:　RS-422 / RS-485 (2-wire) Data length: 7/8 bits　Parity: even/odd/none　Stop bit: 1/2 bits Baud rate: 4,800/9,600/19,200/38,400/57,600/76,800/115,200bps		
	Ethernet	None	1CH	
	USB-A	1CH		
	USB mini-B	1CH		
Power supply	Permissible range of voltage	24VDC±10%		
	Power consumption (max. rating)	11W or less		12W or less
Physical environment	Ambient temperature	0 to 50 deg C[*2]		
	Ambient humidity	85%RH or less (without dew condensation) [*2]		
	Contamination level	2		
	Operation altitude	2,000m or less		
	Atmosphere	No exposure to corrosive gas or conductive dust		
	Ambient storage temperature	-10 to 60 deg C [*2]		
	Ambient storage humidity	85%RH or less　(without dew condensation) [*2]		
Installation conditions	Protective structure — Panel front	IP65 equivalent (when using waterproof gasket [*3]) / IP40 equivalent (when not using a waterproof gasket [*3])		
	Protective structure — Rear housing	IP20 equivalent		
	Dimensions W x H x D	198.8 x 141.8 x 38.0 mm		266.8 x 206.8 x 38.0 mm
	Panel cutout	189.0 x 134.0　(+0.5/-0)　mm		257.0 x 199.0　(+0.5/-0)　mm
Case color		Black		

*1 187,500 bps is only for Siemens MPI/PPI communications. *2 Use at a wet-bulb temperature of 39°C or less because higher temperatures may cause failure. *3 This is an optional accessory.
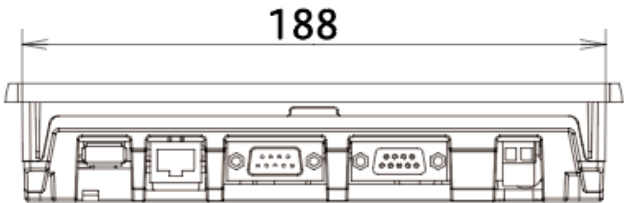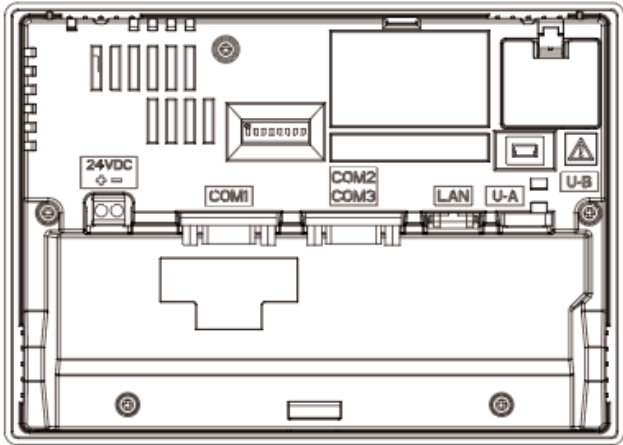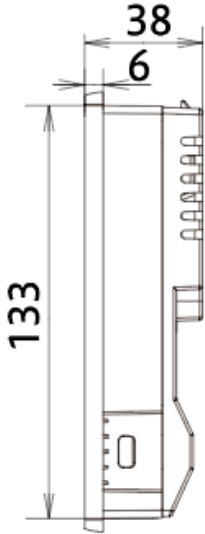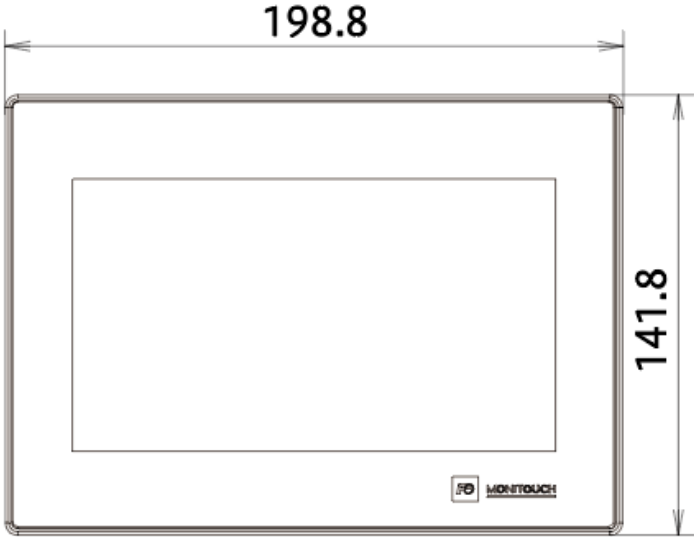
3. Interface
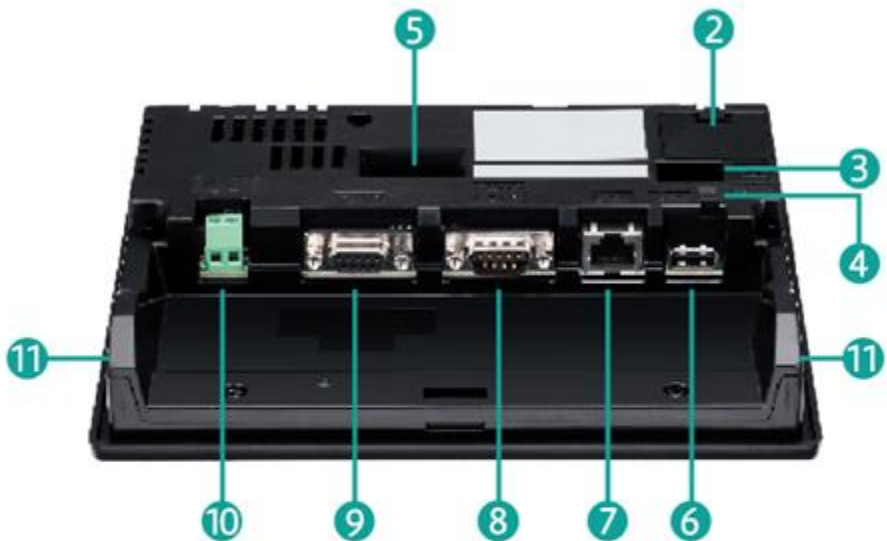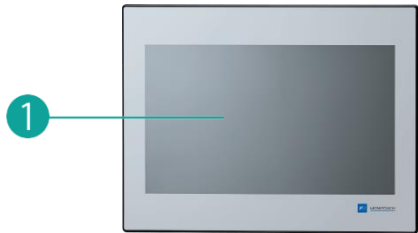
TS1070S / TS1070Si
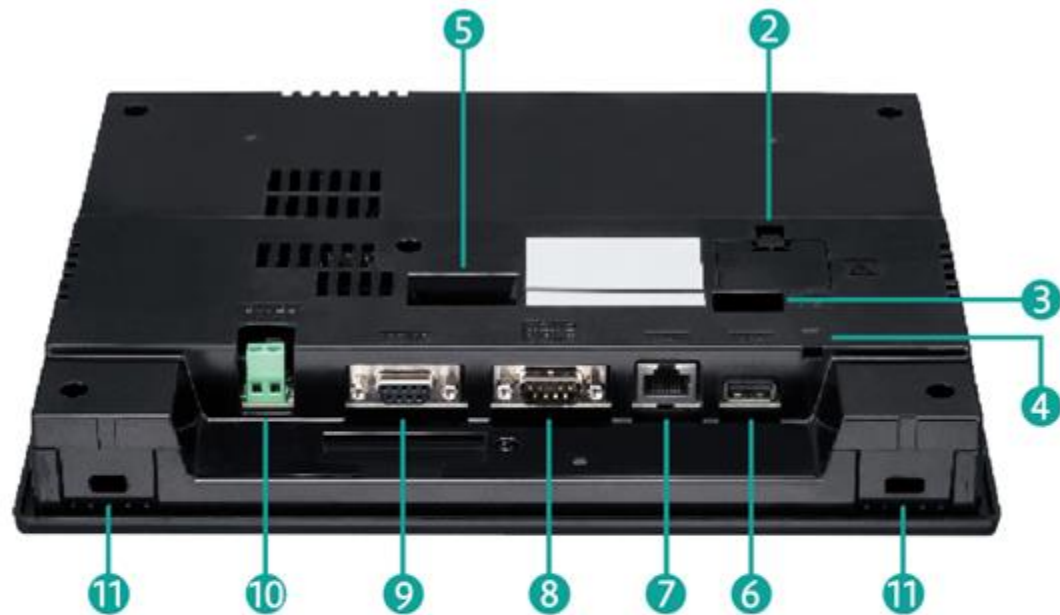
TS1100Si

❶ **Display**	❺ **DIP switch**	❽ **RS-232C/RS-422/RS-485 connector (COM2/COM3)**
❷ **Battery compartment**	❻ **USB A (U-A)**	❾ **RS-422/RS-485 connector (COM1)**
❸ **USB mini-B (U-B)**	❼ **100BASE-TX/10BASE-T connector (LAN)**	❿ **Power input terminal block**
❹ **USB cable retention**	***Only TS1070Si/TS1100Si**	⓫ **Mounting point**

198.8

141.8

38

6

133

188

Panel cutout

134 (+0.5/-0)

189(+0.5/-0)

(Unit: mm)

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Panel cutout

(Unit: mm)

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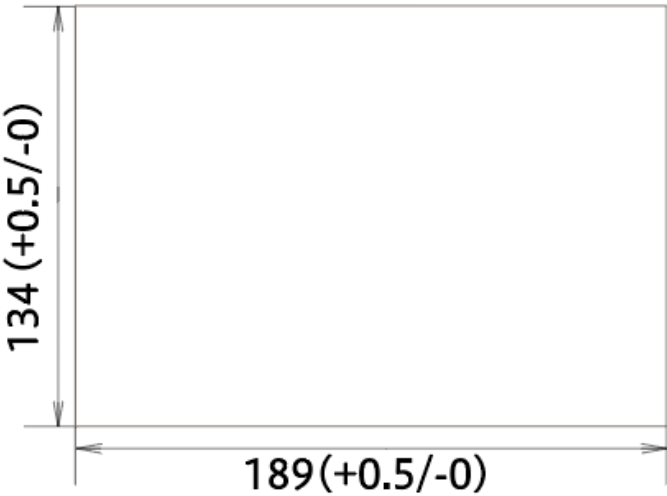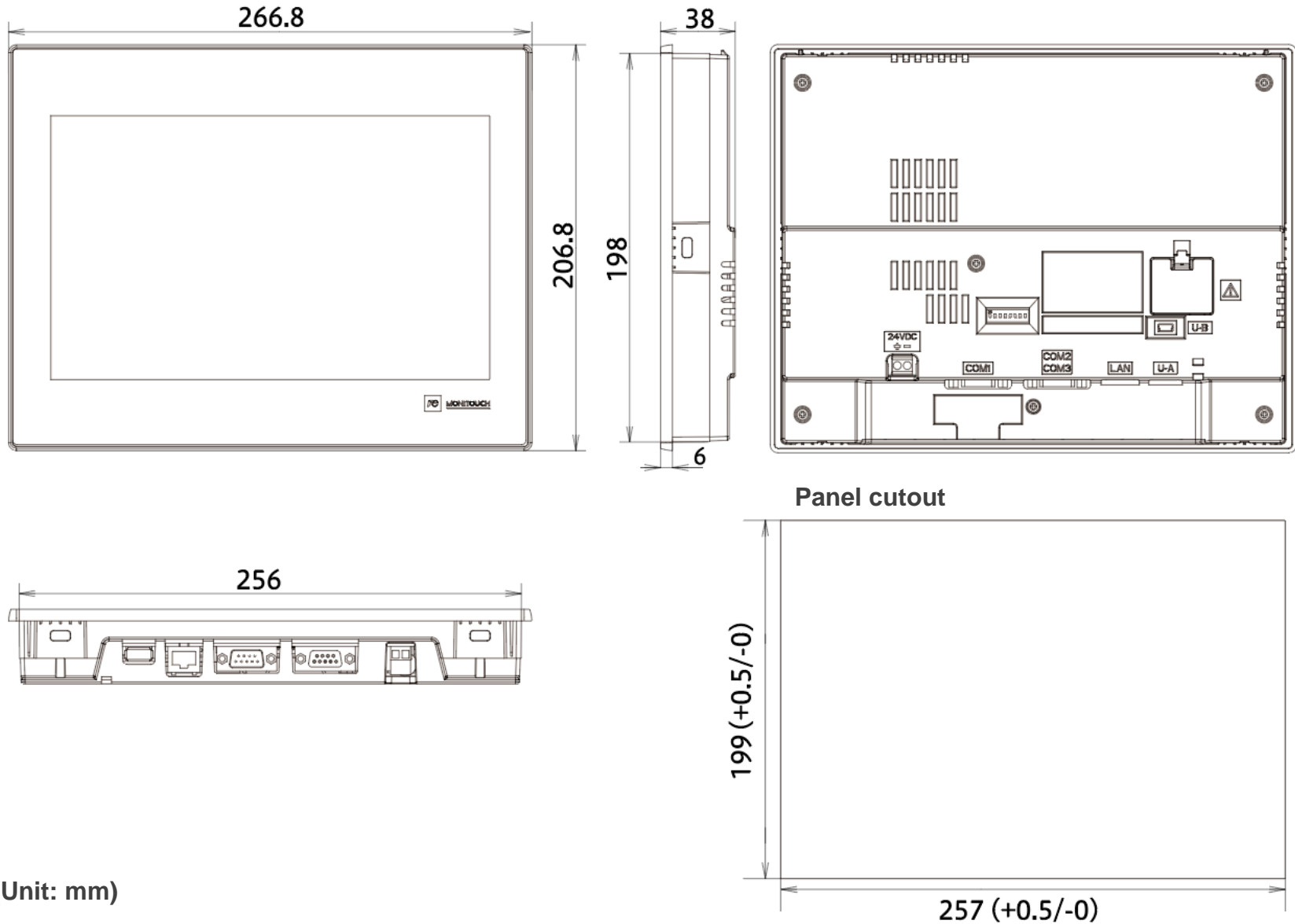
01 VNC Server

Easily setup the VNC viewer tool on a computer to monitor and operate TS1000 Smart screens on the factory floor via the same computer over Ethernet connection.

In addition, monitoring and operations can be easily conducted from a tablet device over wireless router.

TS1000 Smart

Monitor

Operation

Tablet PC

Ethernet

* A setting for only monitoring is also available.

02 Remote Maintenance

Use the TELLUS and V-Server application software to easily monitor and operate TS1000 Smart screen and PLC information remotely at low cost.

Ethernet

PC
TELLUS and V-Server

TS1000 Smart

PLC
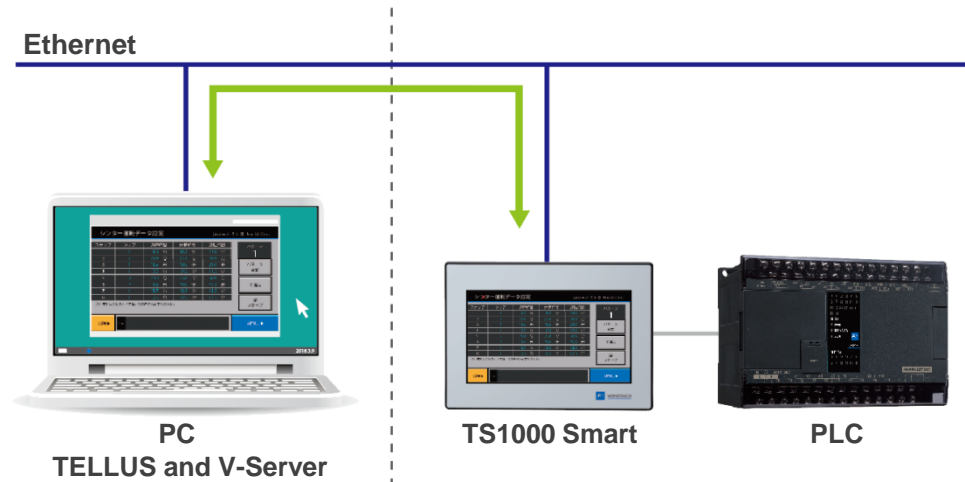
Application software to connect offices and factory floors at minimal cost

TELLUS and V-Server

The VNC server feature is a remote monitoring and management system able to collect real-time information about factory floors, including data aggregation and data management, via the Internet whether at the office or from overseas.
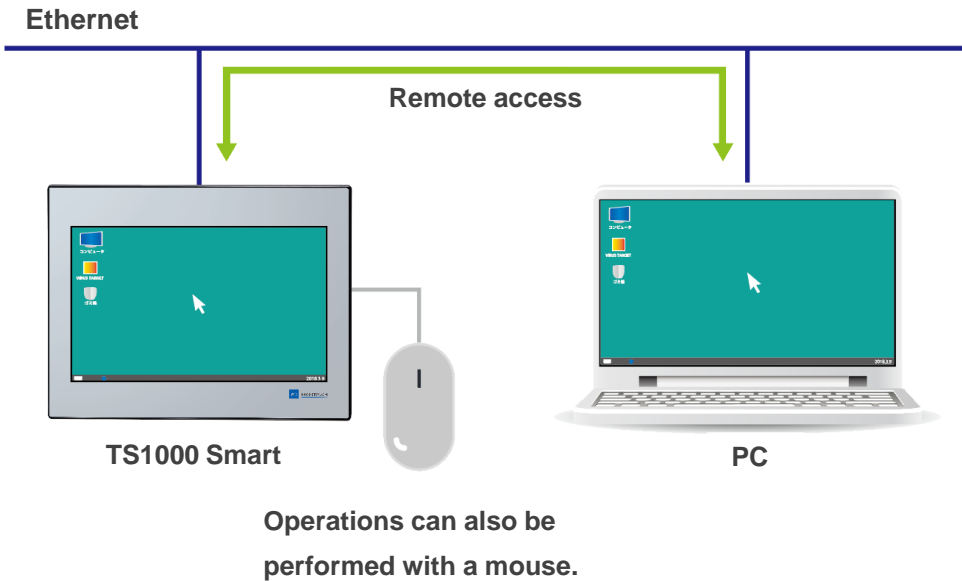
TELLUS and V-Server

Catalog No. 9022NE2

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03 Remote Desktop *

Connect via Ethernet to display and operate the server computer directly using TS1000 Smart.

Ethernet

Remote access

TS1000 Smart

PC

Operations can also be performed with a mouse.

* A license for V-REMOTEDT (usage license) is required.

04 Network Camera

Display video from a network camera connected via Ethernet with TS1000 Smart for monitoring factory floors.

Ethernet

TS1000 Smart

Network camera
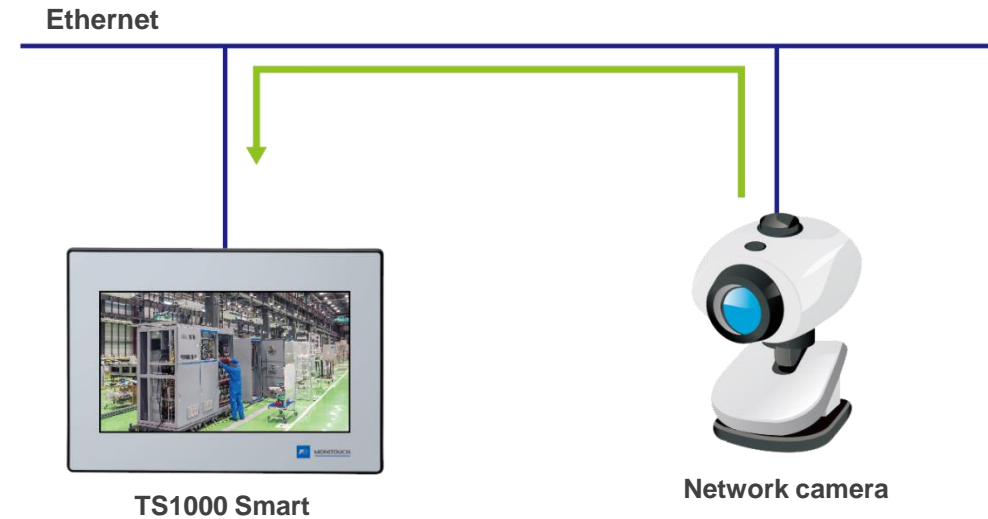
05 FTP Server

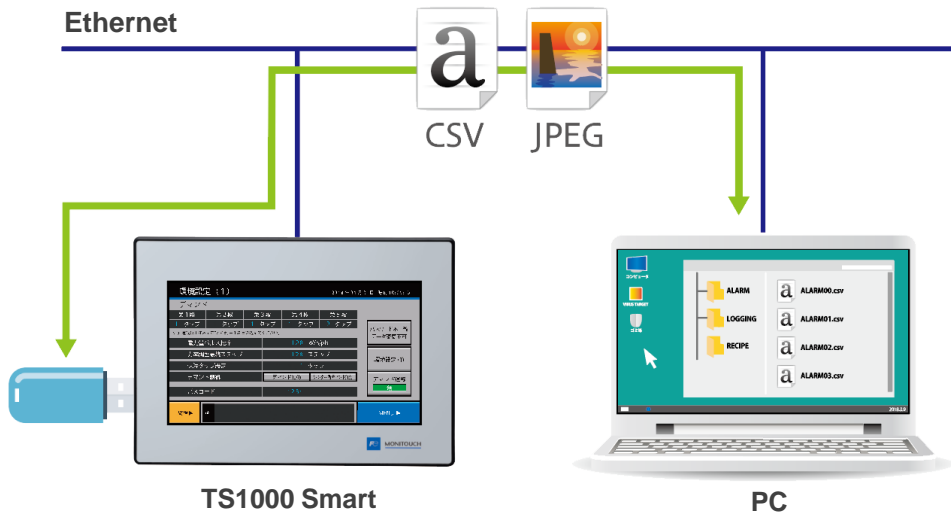Use FTP client tools on a computer to read and write to USB thumb drive mounted on TS1000 Smart.

Ethernet

CSV   JPEG

TS1000 Smart

PC

06 MES (Manufacturing Execution System)

Collect broad information to store in the server database from production performance to defects and the causes of stoppages with TS1000 Smart through the V-Server.

PC
TELLUS and V-Server

Database

- **Operational information**
- **Quality information**

Ethernet

TS1000 Smart

PLC

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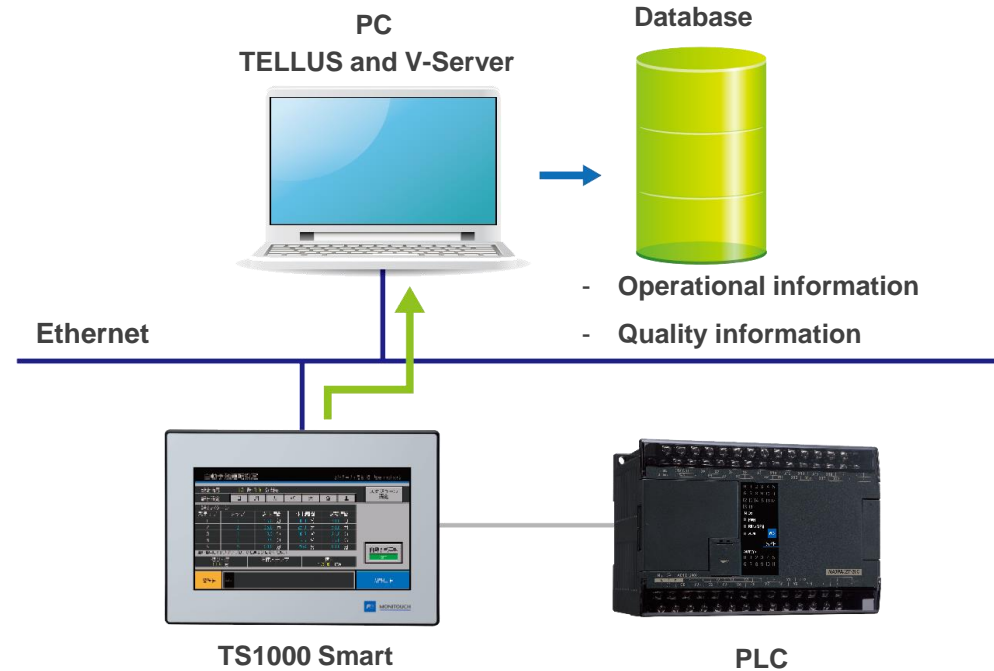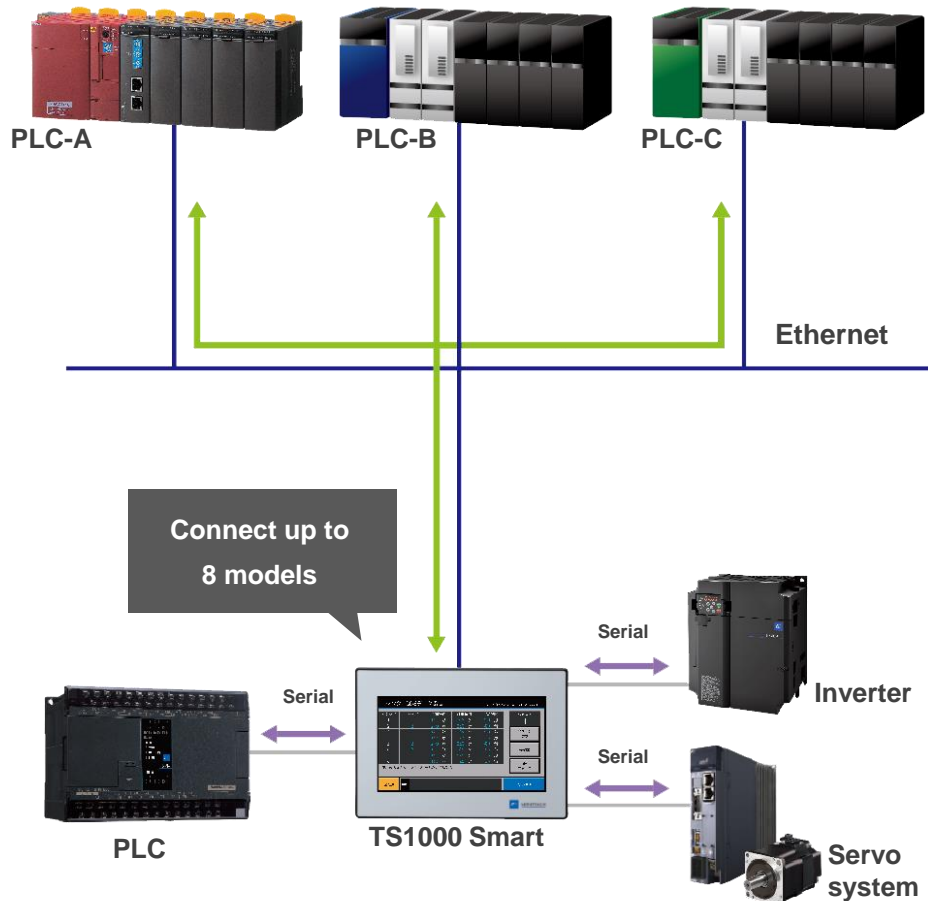
01 8-Way Communication*

Connect up to eight types of PLC or other devices of various models from multiple manufactures at the same time via both an Ethernet and serial connection.
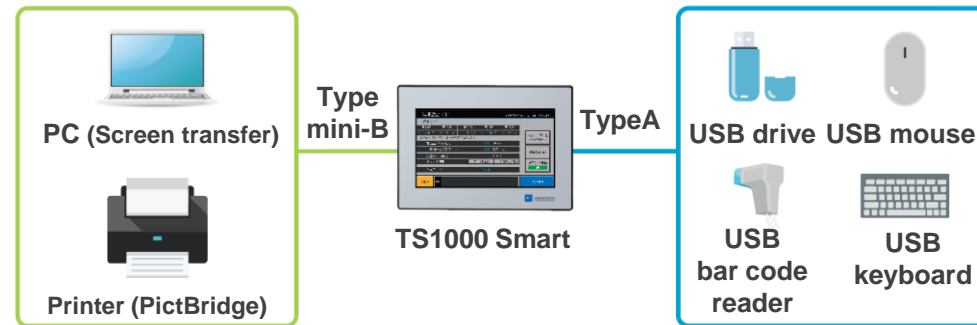
PLC-A PLC-B PLC-C

Ethernet

Connect up to 8 models

Serial — Inverter

Serial

Serial — Servo system

PLC   TS1000 Smart

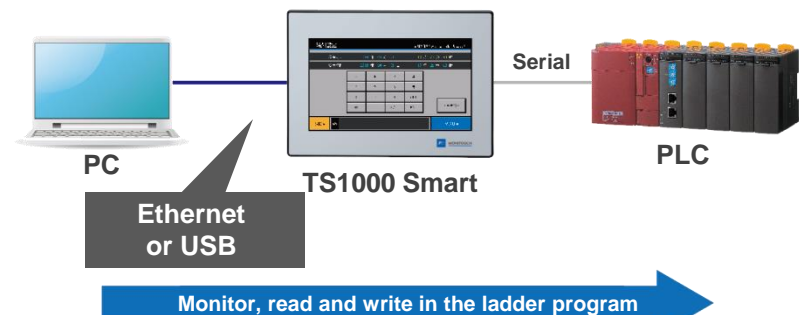* With TS1070S, up to 3 models can be connected.

02 Expanded Connectivity

● **USB port (USB Ver. 2.0 compatible)**

USB port is built-in standard. User the Type A and Type mini-B to connect to a wide range of devices.

PC (Screen transfer) Type mini-B TS1000 Smart TypeA USB drive USB mouse

Printer (PictBridge) USB bar code reader USB keyboard

● **PLC ladder transfer (path-through)**

Monitor, read and write in the ladder program by computer via TS1000 Smart. Choose from either Ethernet or USB to connect between the computer and TS1000 Smart.

PC TS1000 Smart Serial PLC

Ethernet or USB

Monitor, read and write in the ladder program

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03 Trend Sampling

TS1000 Smart series chronologically records a broad-range of data that changes over time to display as trend graphs.

● **Enlarge Display Support**

Enlarge the display for a particular area of the screen to verify changing waveforms of trend graphs in even more detail.

Larger

Smaller

Larger

Smaller

(No zoom)   **(2 times)**   **(4 times)**

*Up to 8 times

04 Security Level Settings

Restrict functions according to the user to configure a high-level security environment.

Operator

Set 16 levels of security

Service technician

TS1000 Smart

Administrator
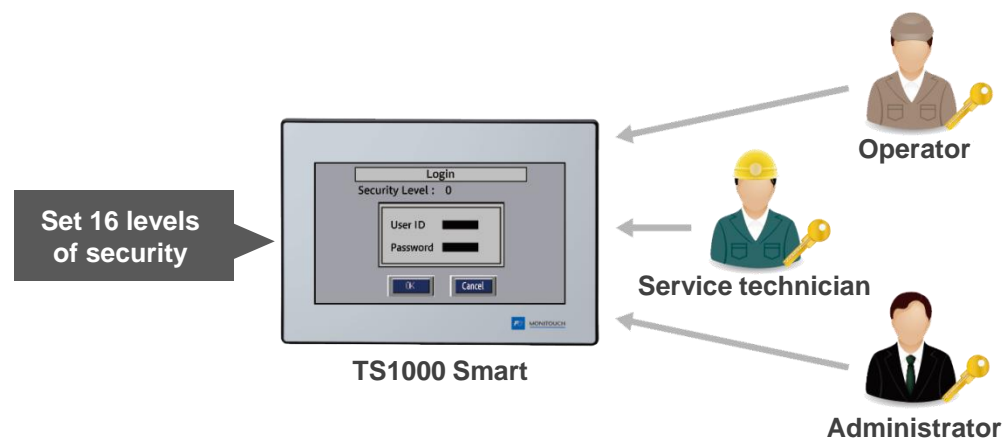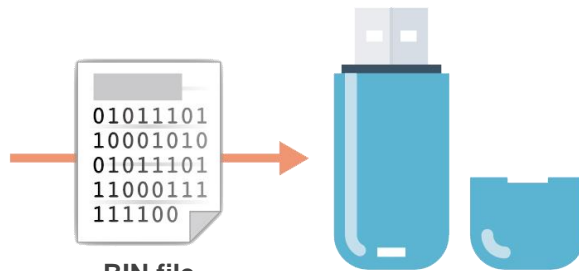
05 Operation Log

Record chronological on-screen input, from switch operations to numerical inputs. Combine the operation log with security features and review attribution information to assist in identifying the cause of errors as well as aid in other diagnostics.

TS1000 Smart

BIN file
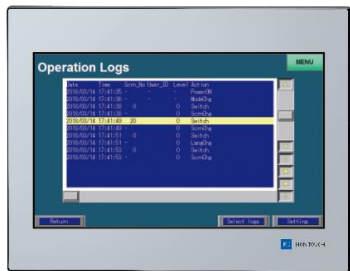
Save history logs in BIN format to eliminate any concerns about data manipulation.

06 Multilanguage

Easily toggle between up to 16 on-screen languages from a single screen program to eliminate the need to sort and manage files for each language.
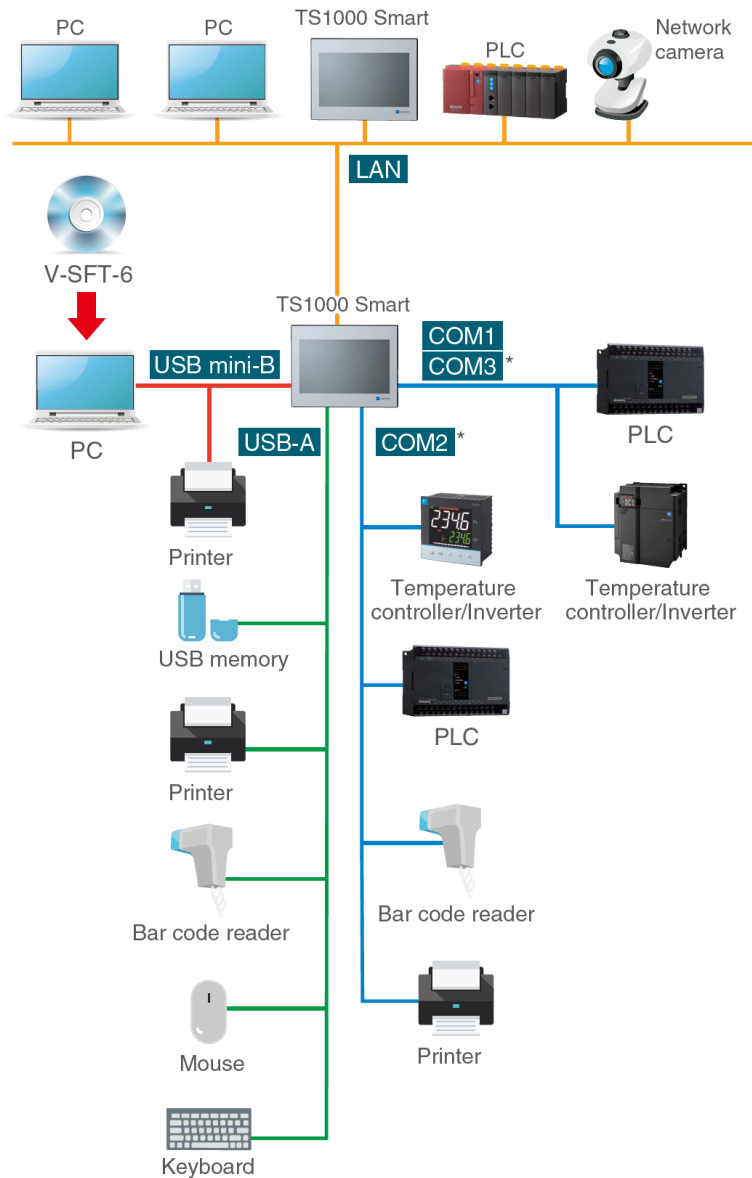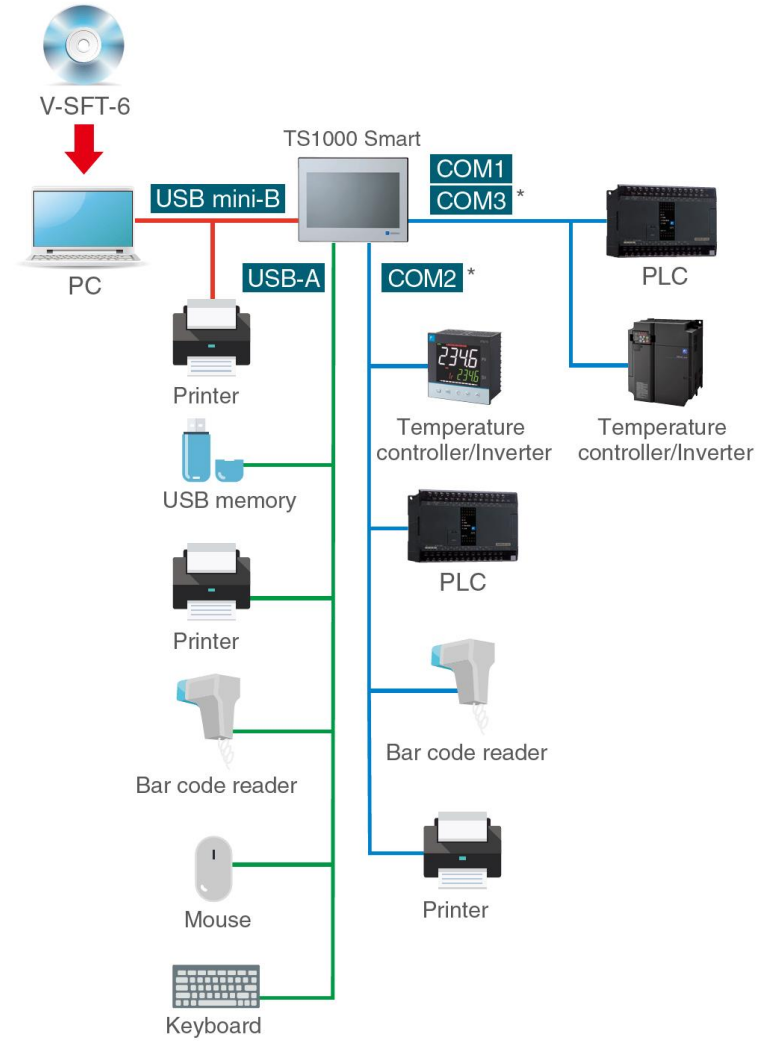
Supports up to 16 languages

TS1000 Smart

Compatible fonts:
Japanese, English/Western Europe, Chinese (Traditional), Chinese (Simplified), Korean, central European alphabets, Cyrillic alphabets, Greek, Turkish, and Baltic alphabets

TS1070Si
TS1100Si

PC   PC   TS1000 Smart

PLC

Network camera

LAN

V-SFT-6

TS1000 Smart

USB mini-B

COM1
COM3 *

PC

USB-A

COM2 *

PLC

Printer

Temperature controller/Inverter

Temperature controller/Inverter

USB memory

Printer

PLC

Bar code reader

Bar code reader

Mouse

Printer

Keyboard

TS1070S

V-SFT-6

TS1000 Smart

USB mini-B

COM1
COM3 *

PC

USB-A

COM2 *

PLC

Printer

Temperature controller/Inverter

Temperature controller/Inverter

USB memory

PLC

Printer

Bar code reader

Bar code reader

Mouse

Printer

Keyboard

| ⸺ Ethernet | ⸺ USB-A | ⸺ Serial | ⸺ USB mini-B |

*COM2 and COM3 are the same port.
 COM2 and COM3 can be used at the same time.

9. Optional Accessory Products

Screen Configuration Software
V-SFT-6

OS: Windows XP / XP 64Edition / Windows Vista (32bit,64bit) /
     Windows 7 (32bit, 64bit) /Windows 8 (32bit,64bit) /
   Windows 8.1 (32bit, 64bit) /Windows 10 (32bit, 64bit)

Terminal Converter
TC-D9

Use the terminal converter when the communication device is
 connected with TS1000 Smart series via the RS-422/485 block.
 (COM1)

Extension Cable for USB-A port
UA-FR

The cable is used when connecting the USB-A (sleeve) port

via the board. (Cable length: 1m)

Waterproof Gasket
TS1070S-WP/TS1100S-WP

Use the waterproof gasket if an IP65 protective structure is

necessary.
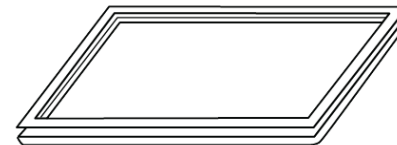
10. Motion System

Motion System Driving the Best Performance Together with TS1000 Smart Series

Programmable Controller **MICREX-SX** Series

SPF

Catalog No. 22B1-E-0019

Achieves excellent cost performance
Flexibly supports machine based systems

◆ High-speed, high-functioning computing performance
◆ Variety of options for flexible applications
◆ 200kHz, compatible with up to 4-axis servo systems

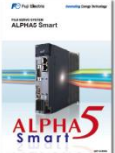MICREX-SX SPF Plus provides advanced motion control, such as synchronous and circular interpolation controls.

Fuji Servo System

ALPHA5 Smart

Catalog No. 24C1-E-0010

Servo System with Enhanced Ease-of-Use

◆ High-speed, high precision positioning
- Frequency response 1500Hz
- Max motor speed 6000r/min
- High resolution encoder
  18bit ABS/INC 262.144 pulse
  20bit INC 1,048,576 pulse

◆ Higher cost performance with original main feature
◆ New servo operator offers improved usability

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