

# General Specifications

GS 32Q06D20-31E

Models SSC50S, SSC50D  
Safety Control Unit,  
Duplexed Safety Control Unit  
(for Vnet/IP, Rack Mountable Type)



## ■ GENERAL

This GS provides the hardware specifications of the safety control unit for Vnet/IP, which are intelligent parts of the safety control station (SCS).

## ■ HARDWARE SPECIFICATIONS

For the criteria for the installation environment, refer to "ProSafe-RS Safety Instrumented System Overview (for Vnet/IP)" (GS 32P01B10-01EN).

### ● Processor

MIPS R5000 Processor

### ● Main Memory Capacity

32 MB

### ● Memory Protection at Power Failure

Application program is stored in non-volatile memories.

Processor Module Management Information is stored in the storage memories backed up by a non-rechargeable battery. The battery's recommended replacement cycle is three years when it is used under the average ambient temperature of 30 °C or less.

### ● Temperature Adaptability

A fan unit is provided for high temperature use where the safety control units (SSC50S-F/SSC50D-F) ambient temperature exceeds 40 °C.

### ● Communications Interface

Vnet/IP interface: Dual-redundant  
ESB bus interface: Dual-redundant

### ● Communication on Vnet/IP

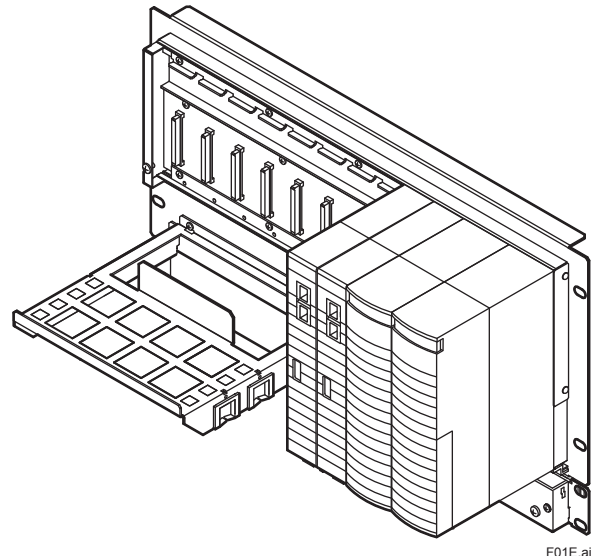
Communication speed: 100 Mbps, Full duplex  
Connection: UTP cable (CAT5e or higher),  
RJ45 connector  
Interface: 100BASE-TX compliance  
Max. distance: 100 m (distance between SSC50S/  
SSC50D and Layer 2 switch)

### ● Connecting Safety Node Units

For each safety control unit, up to nine safety node units can be connected. For installation, ESB bus coupler modules (SEC401) should be mounted on 7-th and 8-th slots.  
ESB bus can be extended by Optical ESB bus repeater module.

### ● Number of I/O Modules Mounted

Up to eight for each safety control unit  
Up to 78 for each SCS



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### ● Power Requirements

Specify suffix codes.

Voltage: 100 to 120 V AC, 50 or 60 Hz

Voltage: 220 to 240 V AC, 50 or 60 Hz

Voltage: 24 V DC

### ● Power Consumption

- SSC50S-S/SSC50D-S  
100 to 120 V AC model: 200 VA  
200 to 240 V AC model: 230 VA  
24 V DC model: 5.5 A
- SSC50S-F/SSC50D-F  
100 to 120 V AC model: 240 VA  
200 to 240 V AC model: 290 VA  
24 V DC model: 7.0 A

### ● Weight

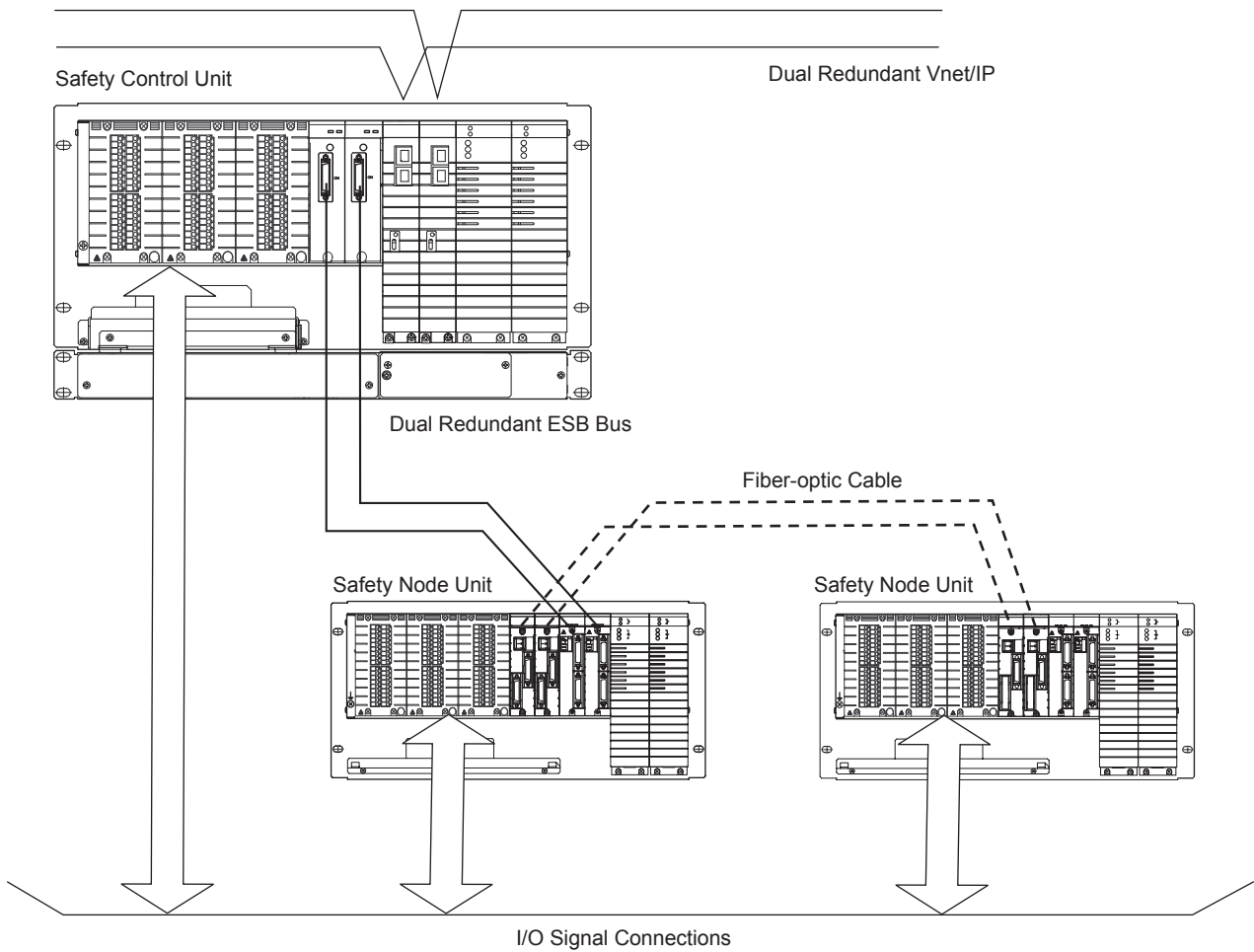
- Approx. 7.9 kg (for SSC50S-S)
- Approx. 13 kg (for SSC50S-F)
- Approx. 8.5 kg (for SSC50D-S)
- Approx. 13 kg (for SSC50D-F)

### ● Mounting

Rack mounting: SSC50S-S/SSC50D-S rack mounted with eight M5 screws  
SSC50S-F/SSC50D-F rack mounted with twelve M5 screws

Insulating Bushing: Supplied as accessories

The SCS is composed of a safety control unit, safety node units and an ESB bus connecting them.



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Figure SCS Configuration

● **Connections**

Power Supply: Connected with M4 screws.  
Grounding: Connected with M4 screws.

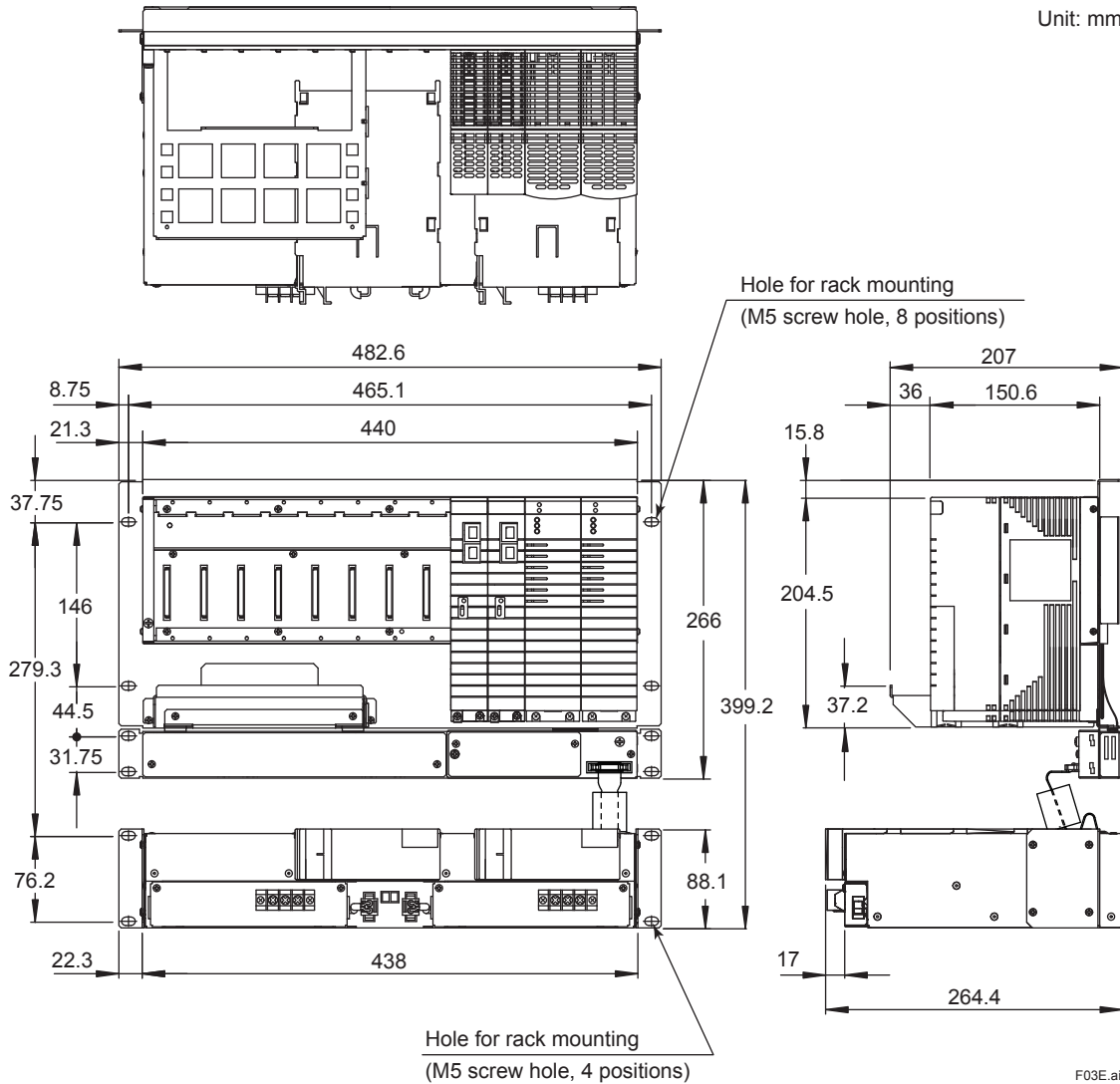
● **Conformity Standards**

Refer to “ProSafe-RS Standards Compliant Models” (GS 32P01B60-01EN).

## EXTERNAL DIMENSIONS

- SSC50S-S, SSC50S-F, SSC50D-S, SSC50D-F

Unit: mm



### Nominal Tolerances :

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is  $\pm 0.8$  mm, while its combination of nominal tolerance is  $\pm 1.5$  mm.

When the reference dimension is over 120 mm, its nominal tolerance is in accordance with JEM 1459.

## ■ MODEL AND SUFFIX CODES

### Safety Control Unit

		Description
<b>Model</b>	SSC50S	Safety Control Unit (for Vnet/IP, Rack Mountable Type)
<b>Suffix Codes</b>	-S	Standard Type (-20 to 40 °C) (with ISA Standard G3 )
	-F	Wide range temperature (-20 to 70 °C) type (with Fan unit and ISA Standard G3)
	2	Dual-redundant power supply
	5	With no explosion protection
	E	With explosion protection
	1	100-120 V AC power supply
	2	220-240 V AC power supply
	4	24 V DC power supply
	1	CFS1100 Safety Control Function License (for R3) (*1) (*2)
	2	Without Safety Control Function License (for R4.01 or later) (*2)
<b>Option Code</b>	/ATDOC	Explosion Protection Manual

Note: Install the 19-inch rack mountable type devices in a keyed metallic cabinet to conform to the safety standards, the EMC conformity standards and the explosion protection standards.

For details, refer to ProSafe-RS Installation Guidance (TI 32P01J10-01EN).

Note: Select the option code "/ATDOC" to follow the ATEX Directive for use in potentially explosive atmospheres.

Note: When the release number is earlier than R3.02.31 or R4.01.31, use SCP451-□1 as a processor module.

When the release number is R3.02.31 and R4.01.31 or later, use SCP451-□1 or SCP451-□3 as a processor module.

SCP451-□1 and SCP451-□3 can be placed in the same safety control unit.

\*1: SSC50S-□□□□1 can be used with R4.01 or later.

\*2: SSC50S-□□□□1 and SSC50S-□□□□2 do not comply with RoHS Directive.

\*3: R3.02.31 patch software must be applied.

\*4: R4.01.31 patch software must be applied.

### Duplexed Safety Control Unit

		Description
<b>Model</b>	SSC50D	Duplexed Safety Control Unit (for Vnet/IP, Rack Mountable Type)
<b>Suffix Codes</b>	-S	Standard Type (-20 to 40 °C) (with ISA Standard G3 )
	-F	Wide range temperature (-20 to 70 °C) type (with Fan unit and ISA Standard G3)
	2	Dual-redundant power supply
	5	With no explosion protection
	E	With explosion protection
	1	100-120 V AC power supply
	2	220-240 V AC power supply
	4	24 V DC power supply
	1	CFS1100 Safety Control Function License (for R3) (*1) (*2)
	2	Without Safety Control Function License (for R4.01 or later) (*2)
<b>Option Code</b>	/ATDOC	Explosion Protection Manual

Note: Install the 19-inch rack mountable type devices in a keyed metallic cabinet to conform to the safety standards, the EMC conformity standards and the explosion protection standards.

For details, refer to ProSafe-RS Installation Guidance (TI 32P01J10-01EN).

Note: Select the option code "/ATDOC" to follow the ATEX Directive for use in potentially explosive atmospheres.

Note: When the release number is earlier than R3.02.31 or R4.01.31, use SCP451-□1 as a processor module.

When the release number is R3.02.31 and R4.01.31 or later, use SCP451-□1 or SCP451-□3 as a processor module.

SCP451-□1 and SCP451-□3 can be placed in the same safety control unit.

\*1: SSC50D-□□□□1 can be used with R4.01 or later.

\*2: SSC50D-□□□□1 and SSC50D-□□□□2 do not comply with RoHS Directive.

\*3: R3.02.31 patch software must be applied.

\*4: R4.01.31 patch software must be applied.

## ■ SOFTWARE

When the release number of software is R3, specify “CFS1100 Safety Control Function License” by suffix code. For details on the CFS1100 specifications, refer to “Safety Control Functions Package” (GS 32Q03B20-31E).

When the release number of software is R4.01 or later, specify “Without Safety Control Function License” by suffix code. Software licenses are required for SSC50S and SSC50D separately. For details, refer to “Safety Control Function (for SSC50□), Safety Control Function for SCS Simulator (for SSC50□)” (GS 32P03B20-01EN) and “Project I/O License” (GS 32P03A10-01EN).

## ■ STANDARD ACCESSORIES

The safety control unit is supplied with the following accessories.

Accessory	Part number	Description	Quantity	Remark
Insulating bushing	S9049PM	SSC50S-S,SSC50D-S	8	Accessories
		SSC50S-F,SSC50D-F	12	

## ■ ORDERING INFORMATION

Specify the model and suffix codes when ordering.

For selecting the right products for explosion protection, please refer to TI 32S01J30-01E without fail.

## ■ NOTES FOR ORDERING

The processor module is delivered without a battery for memory back up. Please separately purchase the battery as specified below and place it prior to use the processor module.

Part No. S9185FA x 1 pce (for SSC50S)

Part No. S9185FA x 2 pcs (for SSC50D)

## ■ TRADEMARKS

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