

General Specifications

GS 32Q06D20-31E

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



[Release 3]

■ 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” (GS 32Q01B10-31E).

● 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

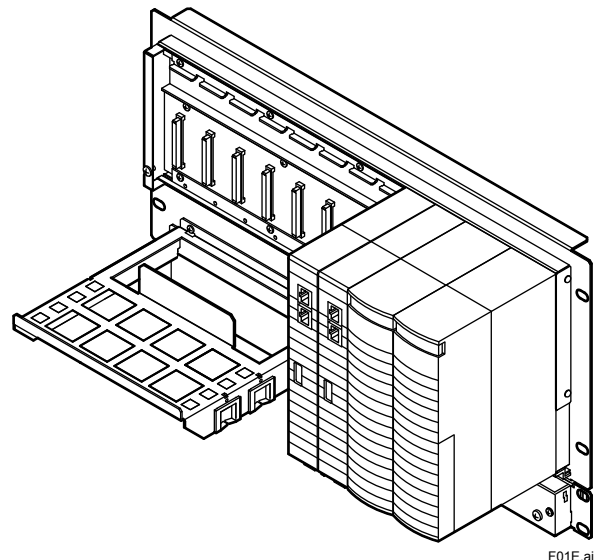
Communication speed: 100 Mbps, Full duplex
Connection: UTP cable (CAT5e or higher),
RJ45 connector
Interface: 100Base-TX compliance
Max. distance: 100 m (distance between SSC50S/
SSC50D and Layer 2 switch)

● 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



F01E.ai

● 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

Approximately 7.9 kg (for SSC50S-S)

Approximately 13.0 kg (for SSC50S-F)

Approximately 8.5 kg (for SSC50D-S)

Approximately 13.0 kg (for SSC50D-F)

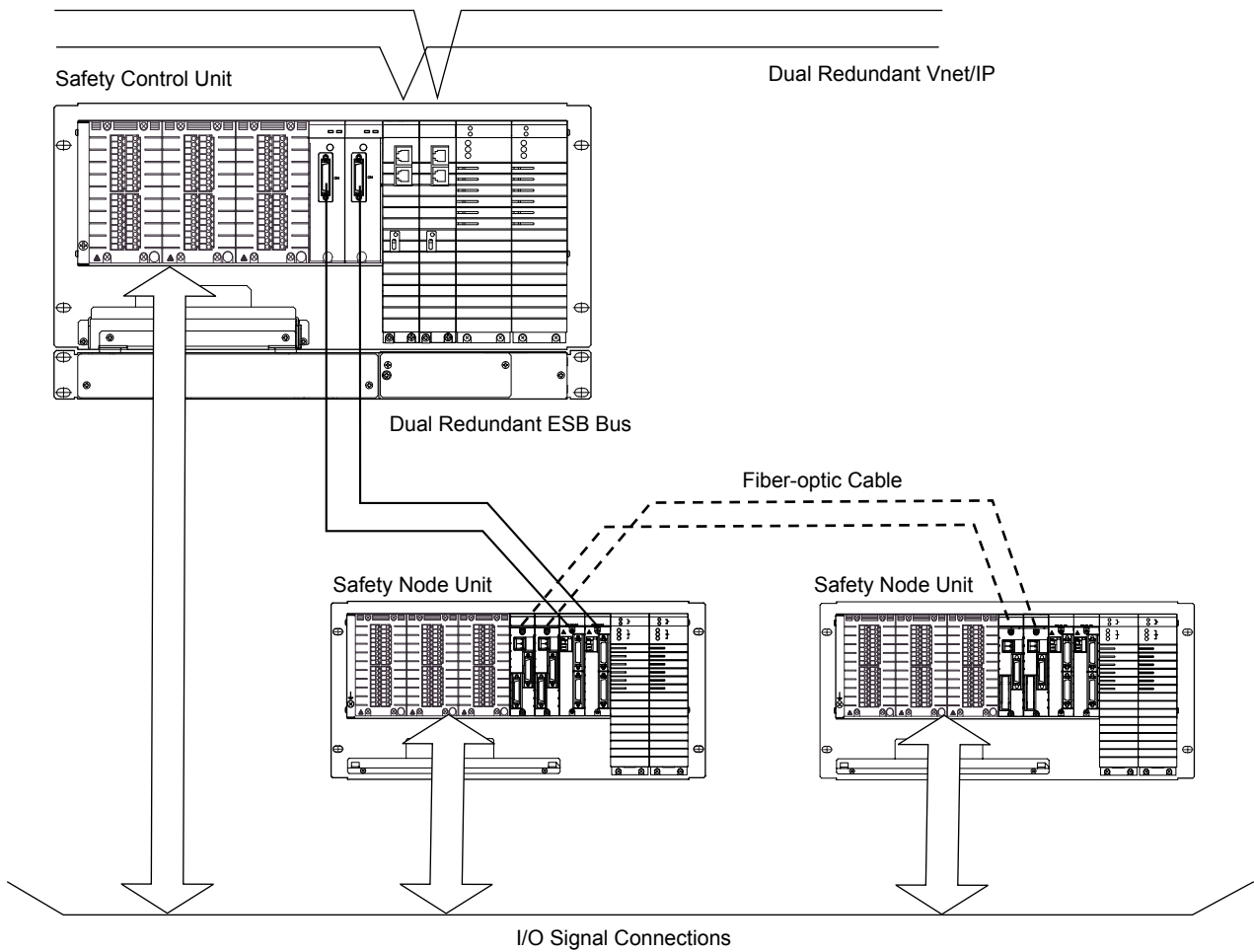
● Mounting

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.



F02E.ai

Figure SCS Configuration

● **Connections**

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

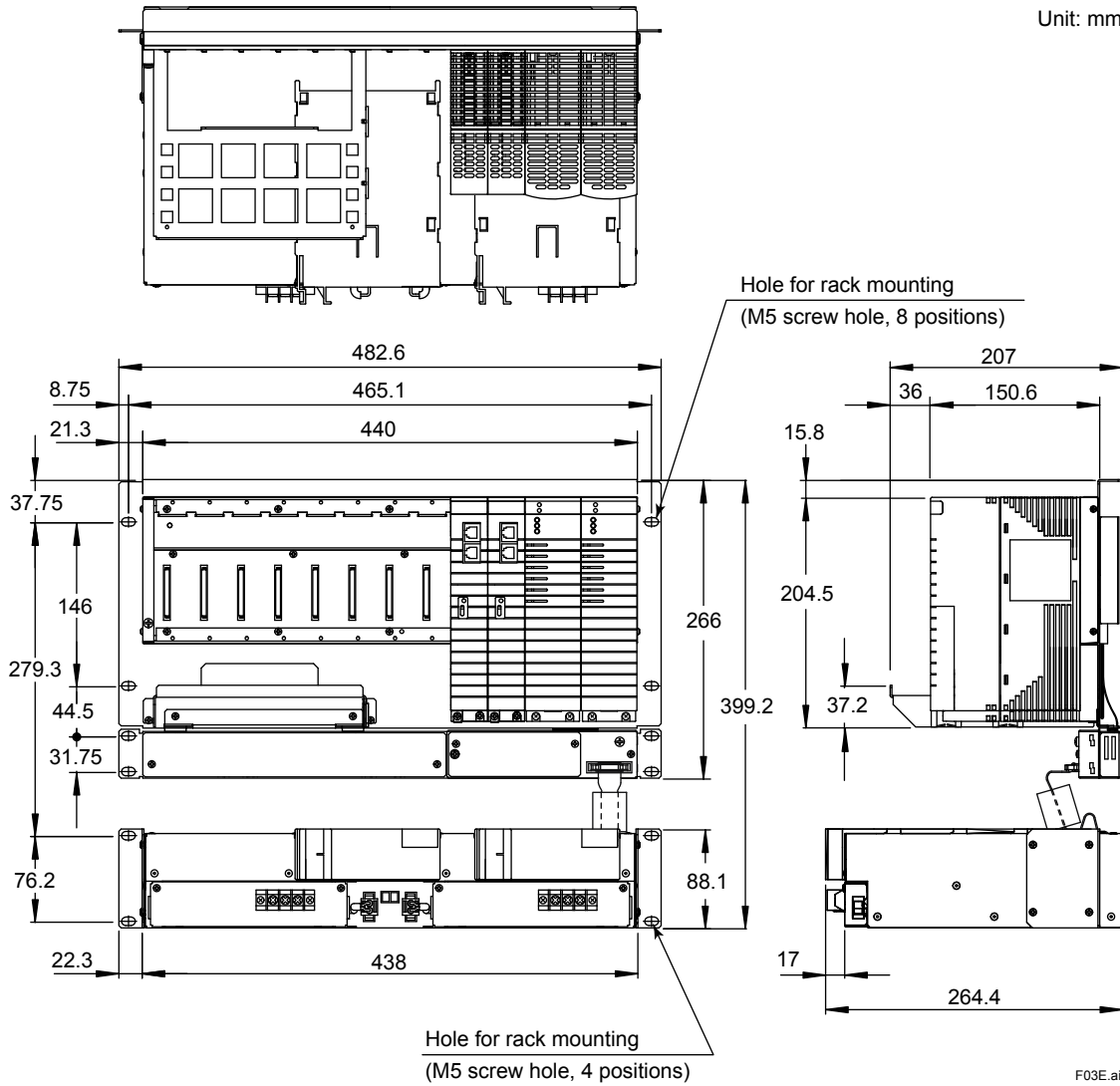
● **Applicable Standards**

Refer to “ProSafe-RS Safety Instrumented System Overview (GS 32Q01B10-31E).”

EXTERNAL DIMENSIONS

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

Unit: mm



■ MODEL AND SUFFIX CODES

Safety Control Unit

		Description
Model	SSC50S	Safety Control Unit (for Vnet/IP, Rack Mountable Type)
Suffix Codes	-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
Option Code	/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 32S01J10-01E).

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

Duplexed Safety Control Unit

		Description
Model	SSC50D	Duplexed Safety Control Unit (for Vnet/IP, Rack Mountable Type)
Suffix Codes	-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
Option Code	/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 32S01J10-01E).

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

■ SOFTWARE

The SSC50S and SSC50D require CFS1100 Safety Control Functions Package. Specify the license for CFS1100 by suffix code.

For details on the CFS1100 specifications, refer to "Safety Control Functions Package (GS 32Q03B20-31E)."

■ 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.

■ TRADEMARKS

- ProSafe and Vnet/IP are registered trademarks of Yokogawa Electric Corporation.
- Other company and product names appearing in this document are trademarks or registered trademarks of their respective holders.