General Specifications

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

ProSafe-RS

GS 32Q06D20-31E

■ 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 flash memory.
Processor Module operation data is stored in NVRAM (nonvolatile memory).

● **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.
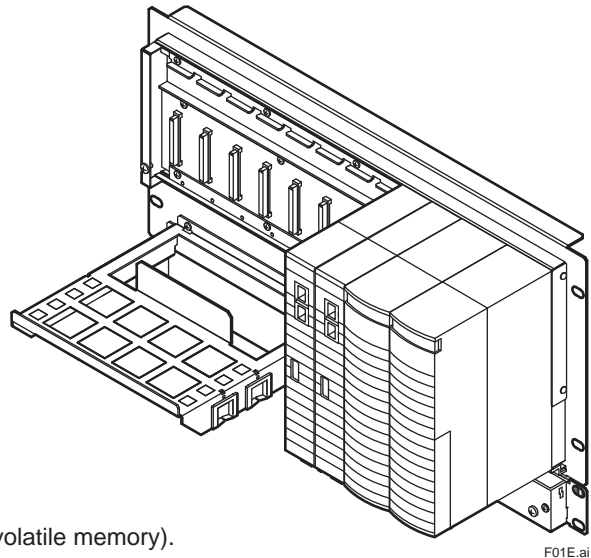
● **Number of I/O Modules Mounted**

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

● **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

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● **Battery**

Part No. : S9185FA
Battery's recommended replacement period:
Three years under the average ambient temperature of 30 °C or less.
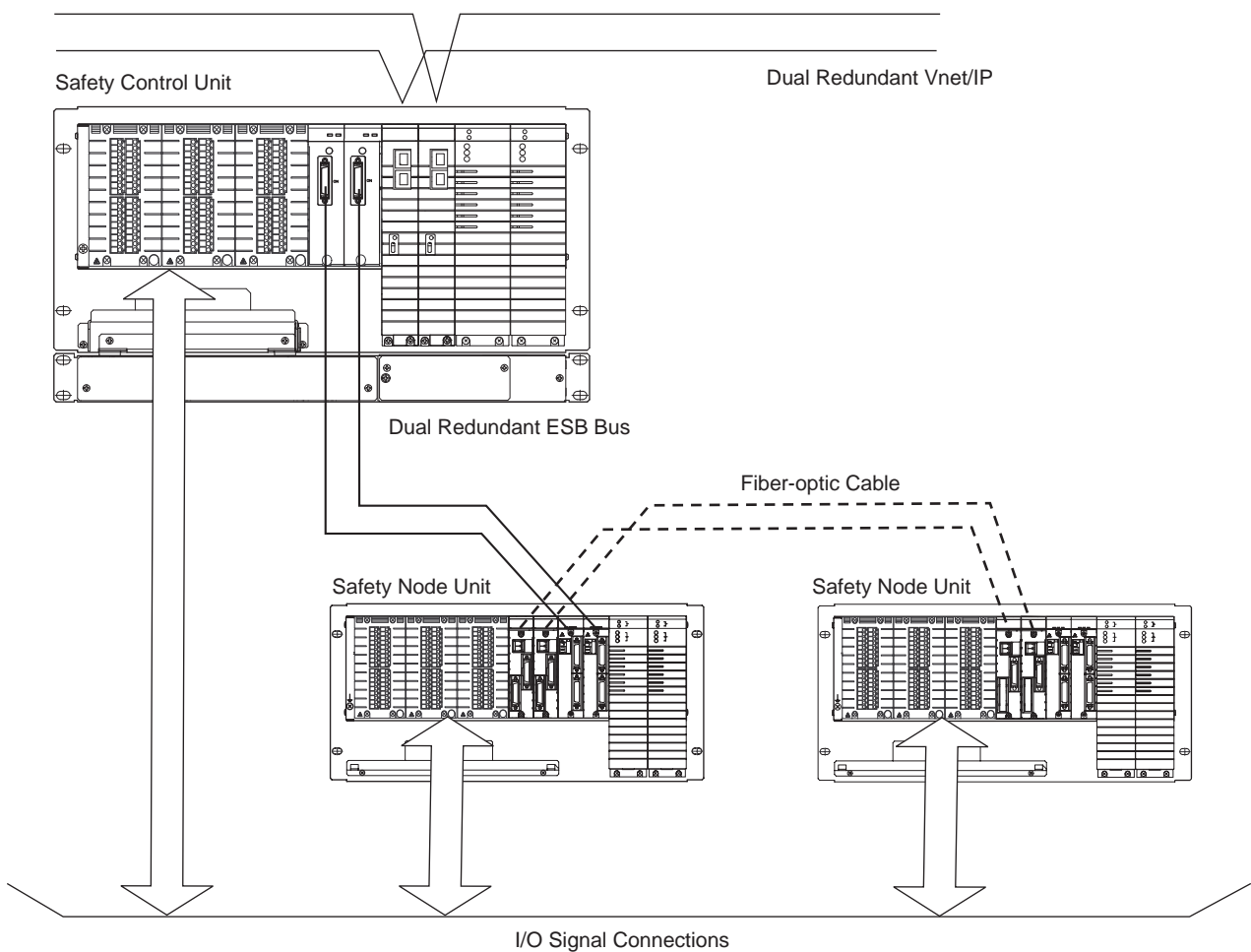
● **Weight**

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.

Figure SCS Configuration

● **Connections**

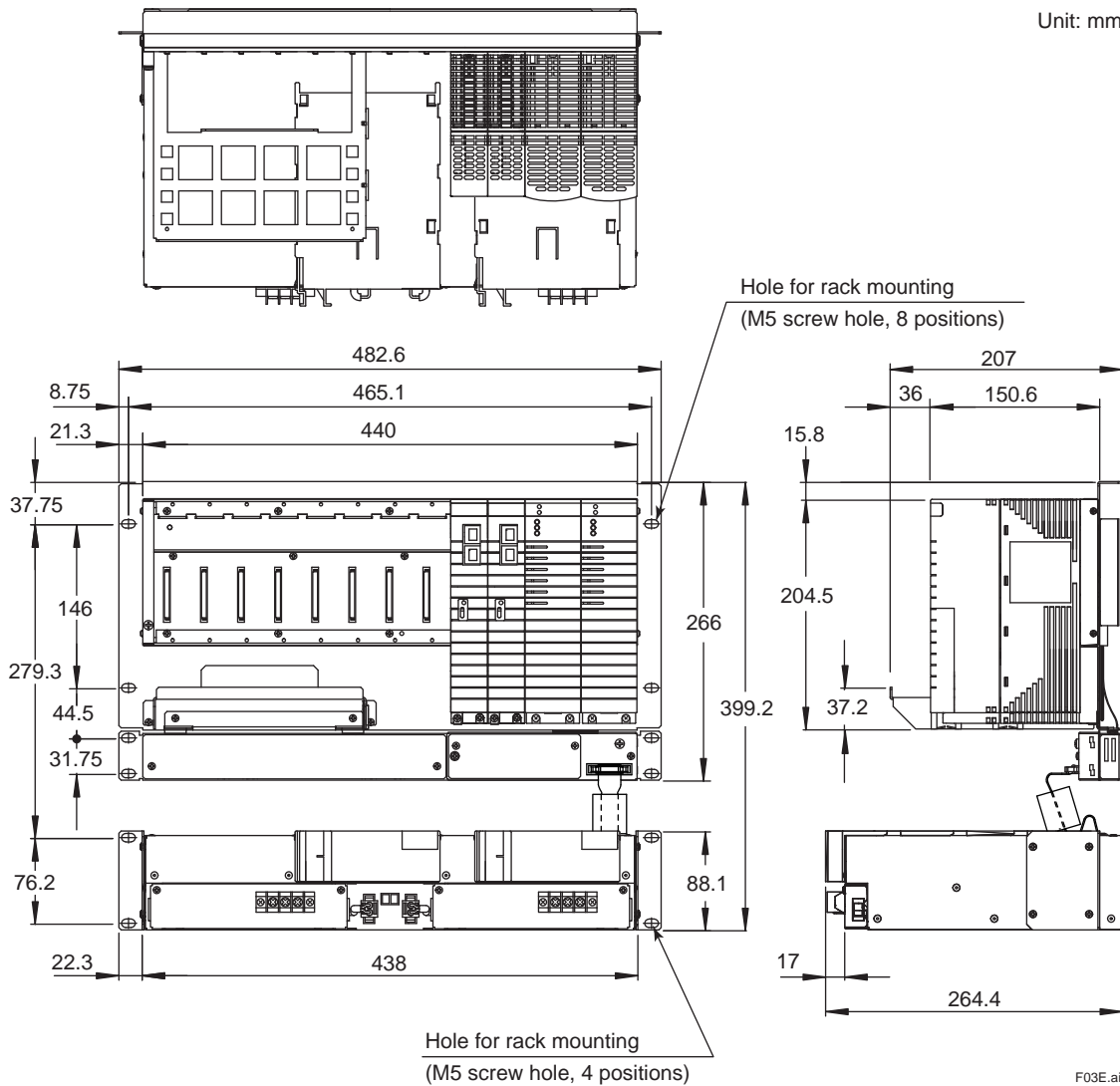Power Supply: Connected with M4 screws.
Grounding: Connected with M4 screws.

● **Conformity Standards**

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

■ EXTERNAL DIMENSIONS

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

Unit: mm

Hole for rack mounting
(M5 screw hole, 8 positions)

Hole for rack mounting
(M5 screw hole, 4 positions)

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Nominal tolerances :
    Nominal tolerance is ± 0.8 mm for the dimensions of 0.5 mm or more and 120 mm or less, and the combined nominal tolerance is ± 1.5 mm.
    The nominal tolerance is in accordance with JEM 1459 for the dimensions over 120 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
	3	CFS1100 Safety Control Function License (for R3: R3.02.31 or later) (*1)
	4	Without Safety Control Function License (for R4.01.31 or later) (*2)
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 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: R3.02.31 patch software must be applied.
*2 R4.01.31 patch software must be applied.

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
	3	CFS1100 Safety Control Function License (for R3: R3.02.31 or later) (*1)
	4	Without Safety Control Function License (for R4.01.31 or later) (*2)
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 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: R3.02.31 patch software must be applied.
*2: 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 code(s).
For selecting the right products for explosion protection, please refer to TI 32S01J30-01E without fail.

■ TRADEMARK ACKNOWLEDGMENT

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