

General Specifications

GS 32Q06D20-31E

ProSafe-RS
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).

● Safety Integrity Level

SIL 3

● 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

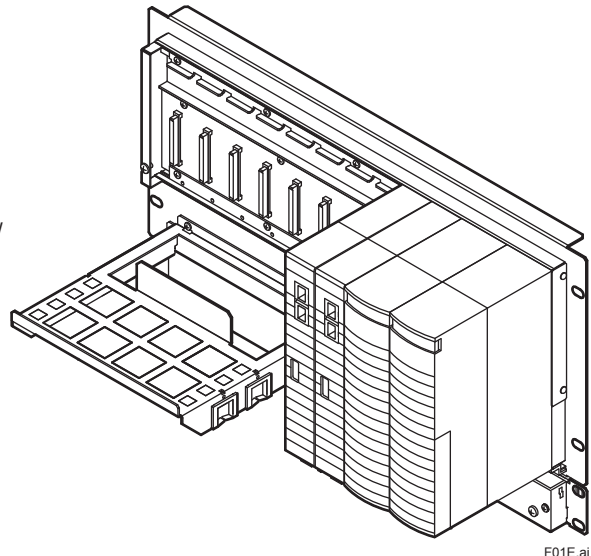
Up to eight for each safety control unit
Up to 78 for each SCS

● 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

● **Battery**

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

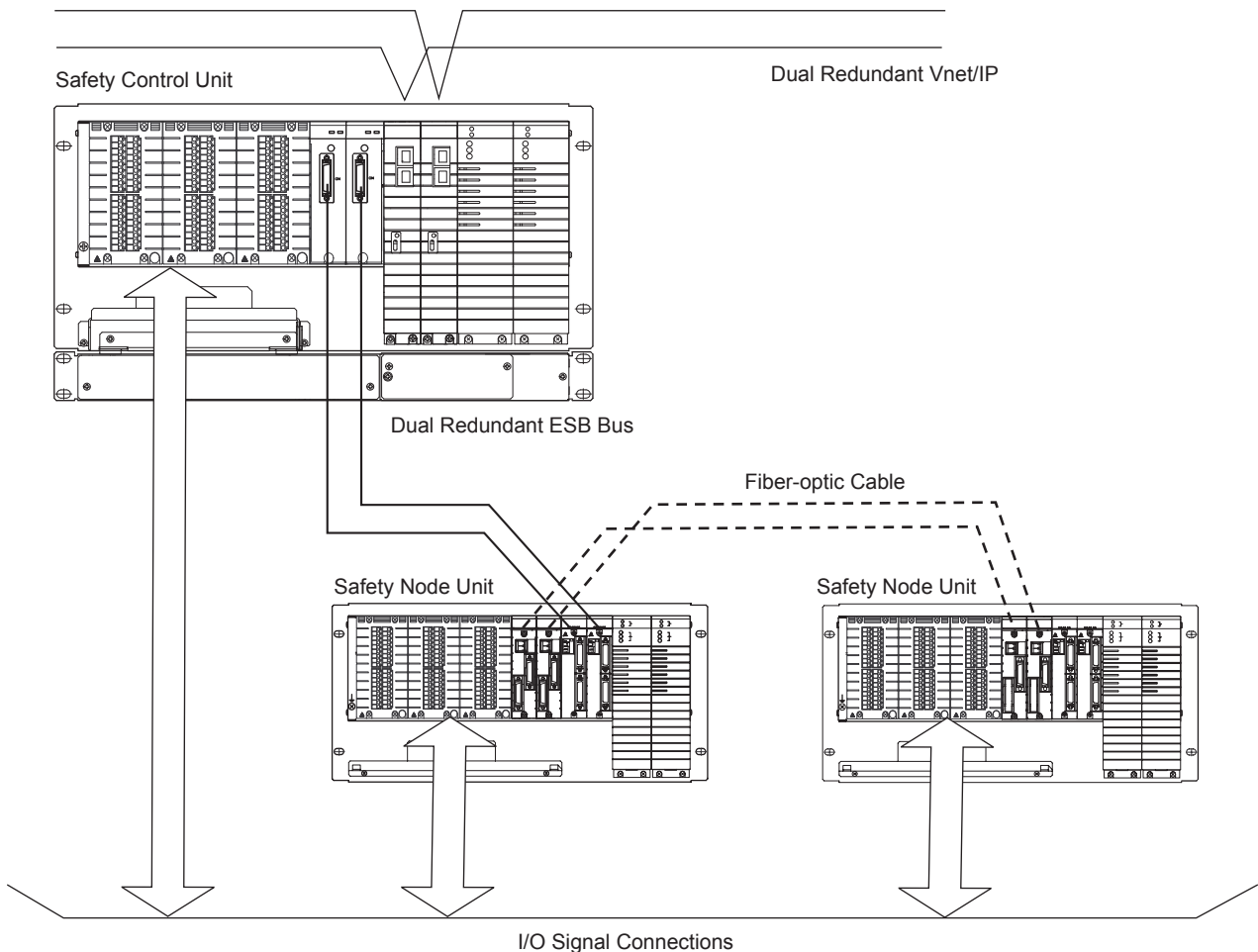
● **Weight**

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.



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Figure SCS Configuration

● **Connections**

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

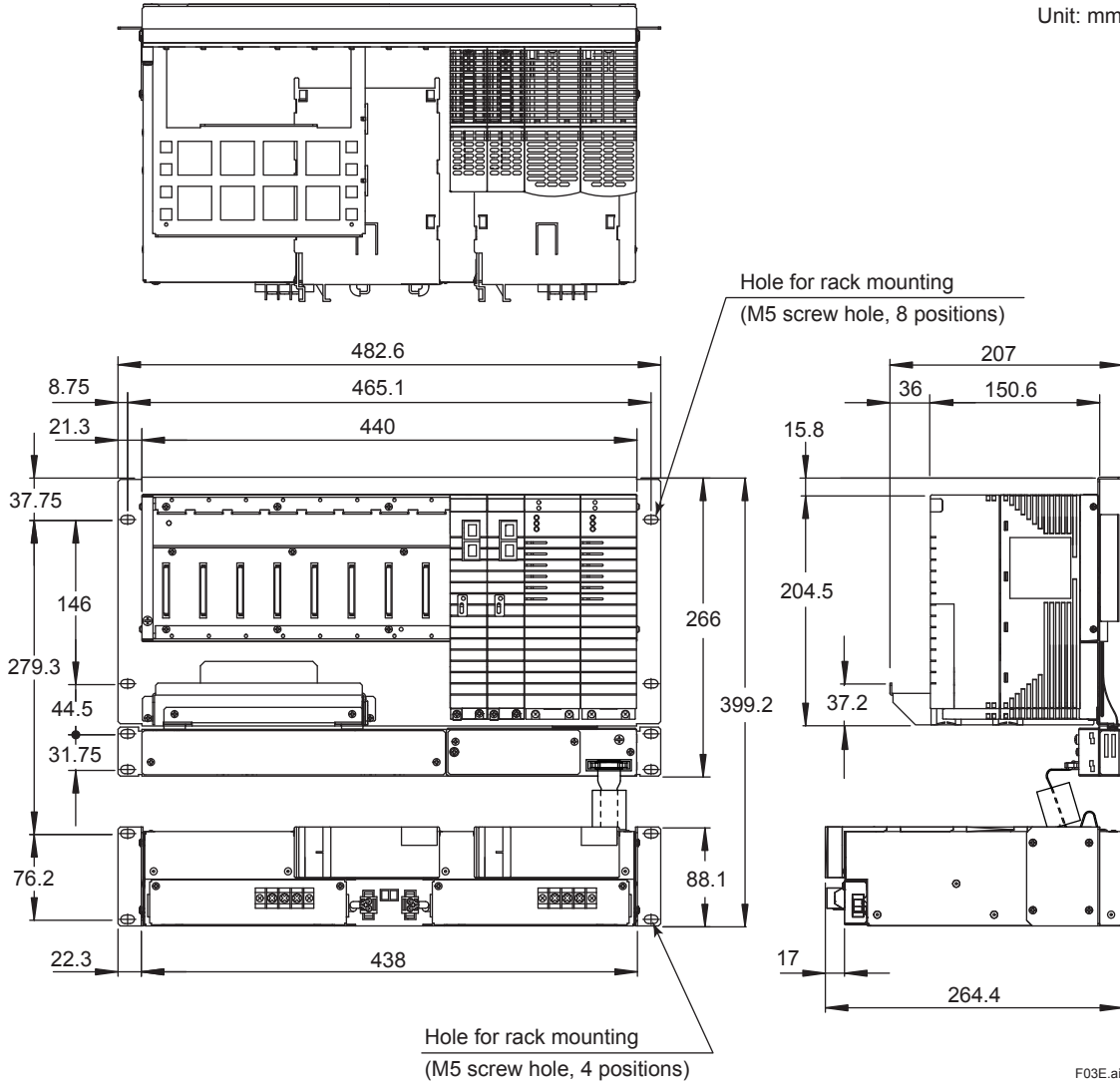
● **Conformity Standards**

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

■ **EXTERNAL DIMENSIONS**

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

Unit: mm



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 |
| 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 and UKEX Regulation 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: For R4.01, the 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 |
| 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 and UKEX Regulation 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: For R4.01, the R4.01.31 patch software must be applied.

■ SOFTWARE

One SSC50S or SSC50D requires one software license for the safety control function. 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 the TI “Explosion Protection” (TI 32S01J30-01E) without fail.

■ TRADEMARK ACKNOWLEDGMENT

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