This GS provides the hardware specifications of the safety control unit for Vnet/IP-Upstream, 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-Upstream)” (GS 32P01B30-01EN).

- **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 (SSC57S-F/SSC57D-F) ambient temperature exceeds 40 °C.

- **Communications Interface**
  - Vnet/IP-Upstream interface: Dual-redundant
  - ESB bus interface: Dual-redundant

- **Communication on Vnet/IP-Upstream**
  - Communication speed: 100 Mbps, Full duplex
  - Connection: UTP cable (CAT5e or higher), RJ45 connector
  - Interface: 100BASE-TX compliance
  - Max. distance: 100 m (distance between SSC57S/SSC57D 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**
  - SSC57S-S/SSC57D-S
    - 100 to 120 V AC model: 200 VA
    - 200 to 240 V AC model: 230 VA
    - 24 V DC model: 5.5 A
  - SSC57S-F/SSC57D-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 SSC57S-S)
  - Approx. 13 kg (for SSC57S-F)
  - Approx. 8.5 kg (for SSC57D-S)
  - Approx. 13 kg (for SSC57D-F)

- **Mounting**
  - Rack mounting: SSC57S-S/SSC57D-S rack mounted with eight M5 screws
  - SSC57S-F/SSC57D-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.

- **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

- **SSC57S-S, SSC57S-F, SSC57D-S, SSC57D-F**

![Diagram of the external dimensions of SSC57S-S, SSC57S-F, SSC57D-S, SSC57D-F with dimensions labeled in millimeters.]

**Nominal Tolerances:**

When the reference dimension is over 0.5 mm and equal or less than 120 mm, its nominal tolerance is ± 0.8 mm, while its combination of nominal tolerance is ± 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

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSC57S</td>
<td>Safety Control Unit (for Vnet/IP-Upstream, Rack Mountable Type)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suffix Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-S</td>
<td>Standard Type (-20 to 40 °C) (with ISA Standard G3)</td>
</tr>
<tr>
<td>-F</td>
<td>Wide range temperature (-20 to 70 °C) type (with Fan unit and ISA Standard G3)</td>
</tr>
<tr>
<td>2</td>
<td>Dual-redundant power supply</td>
</tr>
<tr>
<td>5</td>
<td>With no explosion protection</td>
</tr>
<tr>
<td>E</td>
<td>With explosion protection</td>
</tr>
<tr>
<td>1</td>
<td>100-120 V AC power supply</td>
</tr>
<tr>
<td>2</td>
<td>220-240 V AC power supply</td>
</tr>
<tr>
<td>4</td>
<td>24 V DC power supply</td>
</tr>
<tr>
<td>1</td>
<td>CFS1170 Safety Control Function License (for R3) (*1)(*2)</td>
</tr>
<tr>
<td>2</td>
<td>Without Safety Control Function License (for R4.01 or later) (*6)</td>
</tr>
<tr>
<td>3</td>
<td>CFS1170 Safety Control Function License (for R3: R3.02.31 or later) (*3)</td>
</tr>
<tr>
<td>4</td>
<td>Without Safety Control Function License (for R4.01.31 or later) (*4)</td>
</tr>
</tbody>
</table>

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.

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

*1: SSC57S-□□□□1 can be used with R4.01 or later.
*2: SSC57S-□□□□1 and SSC57S-□□□□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

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>SSC57D</td>
<td>Duplexed Safety Control Unit (for Vnet/IP-Upstream, Rack Mountable Type)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suffix Codes</th>
<th>Description</th>
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<td>Standard Type (-20 to 40 °C) (with ISA Standard G3)</td>
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<td>5</td>
<td>With no explosion protection</td>
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<td>E</td>
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<td>4</td>
<td>24 V DC power supply</td>
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<tr>
<td>1</td>
<td>CFS1170 Safety Control Function License (for R3) (*1)(*2)</td>
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<tr>
<td>2</td>
<td>Without Safety Control Function License (for R4.01 or later) (*6)</td>
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<tr>
<td>3</td>
<td>CFS1170 Safety Control Function License (for R3: R3.02.31 or later) (*3)</td>
</tr>
<tr>
<td>4</td>
<td>Without Safety Control Function License (for R4.01.31 or later) (*4)</td>
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</tbody>
</table>

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.

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

*1: SSC57D-□□□□1 can be used with R4.01 or later.
*2: SSC57D-□□□□1 and SSC57D-□□□□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.
OPERATING ENVIRONMENT

Software Requirements
When the release number of software is R3, specify “CFS1170 Safety Control Function License” by suffix code. For details on the CFS1170 specifications, refer to “Safety Control Functions Package” (GS 32Q03B25-31E). 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 SSC57S and SSC57D separately. For details, refer to “Safety Control Function (for SSC57□)” (GS 32P03B25-01EN) and “Project I/O License” (GS 32P03A10-01EN).

Engineering Requirements
Engineering works can be performed with the revision R3.02.10 or later.

STANDARD ACCESSORIES
The safety control unit is supplied with the following accessories.

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Part number</th>
<th>Description</th>
<th>Quantity</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulating bushing</td>
<td>S9049PM</td>
<td>SSC57S-S, SSC57D-S</td>
<td>8</td>
<td>Accessories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SSC57S-F, SSC57D-F</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

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.

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