

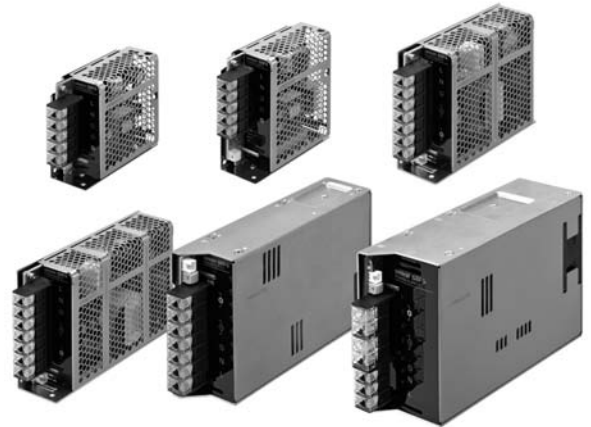
Switch Mode Power Supply (15/30/50/100/150/300/600-W Models)

S8FS-G

Superior Basic Performance That Ensures Reliability. Wide Range of Standards Certification and Greater Usability.



- Superior basic performance that ensures reliability
Ambient temperatures up to 70°C, greater resistance to rusting with aluminum/stainless steel case, and applications at altitudes up to 3,000 m.
- Certification for Global Standards
North America: UL 508 (Listing)*, CSA C22.2
Europe: Overvoltage Category III (EN 62477-1)
EMI: Class B (EN 61204-3)
No need for control circuit transformers for which the Machinery Directive is specified. (EN/IEC 61558-2-16)
India BIS: IS 13252 (Part 1)/IEC 60950-1*
* Refer to pages 4 to 10 for certified models.



Refer to *Safety Precautions for All Power Supplies* and *Safety Precautions* on page 29.

- Greater Usability
The Terminal Block Cover prevents screws from dropping out and the Front Cover prevents ingress of foreign matter.

Lineup

| Output voltage (VDC) | Power rating | | | | | | |
|----------------------|--------------|------|------|-------|-------|-------|-------|
| | 15 W | 30 W | 50 W | 100 W | 150 W | 300 W | 600 W |
| 5 V | Yes | Yes | Yes | Yes | Yes | --- | --- |
| 12 V | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 15 V | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 24 V | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 48 V | --- | --- | --- | --- | Yes | Yes | Yes |

Model Number Structure

Model Number Legend

Note: Not all combinations are possible. Refer to *List of Models* in *Ordering Information*, below.

S8FS- G

1 2 3 4 5 6 7 8

- | | | | | |
|---|---|---|---|--|
| <p>1. Power Ratings 015: 15 W 030: 30 W 050: 50 W *1 100: 100 W *2 150: 150 W *3 300: 300 W 600: 600 W</p> | <p>2. Output voltage (VDC) 05: 5 V 12: 12 V 15: 15 V 24: 24 V 48: 48 V</p> | <p>3. Configuration C: With cover/ Direct mounting CD: With cover/ DIN Rail mounting</p> <p>4. Option (1) None: Screw terminal block E: Connectors *4</p> | <p>5. Option (2) *5 None: None W: Parallel operation</p> <p>6. Option (3) *6 None: None R: Remote control</p> | <p>7. Option (4) *7 None: None H: Extended hold time</p> <p>8. Safety Standards None: For details, refer to <i>Safety Standards of Specifications</i> on pages 4 to 10 500: Uncertified models by *8 BIS and EAC Standards</p> |
|---|---|---|---|--|

*1. The output electric power is 40 W for products with an output voltage of 5 V.
*2. The output electric power is 80 W for products with an output voltage of 5 V.
*3. The output electric power is 105 W for products with an output voltage of 5 V.
*4. Applicable only for 150 W or less and 24 V.
*5. Applicable only for 600 W and 24 V.
*6. Applicable only for 100 W or more and 24 V.

*7. Applicable only for 300 W or more and 24 V.
*8. S8FS-G10024C-500, S8FS-G10024CD-500, S8FS-G15024C-500, S8FS-G15024CD-500, S8FS-G30024C-500, S8FS-G30024CD-500, S8FS-G60024C-500, S8FS-G60024CD-500 only.

S8FS-G

Ordering Information

List of Models

Note: For details on normal stock models, contact your nearest OMRON representative.

With Cover/DIN Rail Mounting

| Power ratings | Input voltage | Output voltage (VDC) | Output current | Built-in fan | Model |
|---------------|--|----------------------|---------------------------------------|---------------|---------------------------------------|
| 15 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 80 to 370 VDC) *4 | 5 V | 3 A | None | S8FS-G01505CD |
| | | 12 V | 1.3 A | | S8FS-G01512CD |
| | | 15 V | 1 A | | S8FS-G01515CD |
| | | 24 V | 0.65 A | | S8FS-G01524CD |
| 30 W | | 5 V | 6 A | | S8FS-G03005CD |
| | | 12 V | 3 A | | S8FS-G03012CD |
| | | 15 V | 2.4 A | | S8FS-G03015CD |
| | | 24 V | 1.5 A | | S8FS-G03024CD |
| 50 W | | 5 V | 8 A *1 | | S8FS-G05005CD |
| | | 12 V | 4.3 A | | S8FS-G05012CD |
| | | 15 V | 3.5 A | | S8FS-G05015CD |
| | | 24 V | 2.2 A | | S8FS-G05024CD |
| 100 W | | 5 V | 16 A *2 | | S8FS-G10005CD |
| | | 12 V | 8.5 A | | S8FS-G10012CD |
| | | 15 V | 7 A | | S8FS-G10015CD |
| | | 24 V | 4.5 A | | S8FS-G10024CD S8FS-G10024CD-500 *5 |
| 150 W | 5 V | 21 A *3 | S8FS-G15005CD | | |
| | 12 V | 13 A | S8FS-G15012CD | | |
| | 15 V | 10 A | S8FS-G15015CD | | |
| | 24 V | 6.5 A | S8FS-G15024CD S8FS-G15024CD-500 *5 | | |
| | 48 V | 3.3 A | S8FS-G15048CD | | |
| | 300 W | 12 V | 25 A | S8FS-G30012CD | |
| 15 V | | 20 A | S8FS-G30015CD | | |
| 24 V | | 14 A | S8FS-G30024CD S8FS-G30024CD-500 *6 | | |
| 48 V | | 7 A | S8FS-G30048CD | | |
| 600 W | 12 V | 50 A | S8FS-G60012CD | | |
| | 15 V | 40 A | S8FS-G60015CD | | |
| | 24 V | 27 A | S8FS-G60024CD S8FS-G60024CD-500 *6 | | |
| | 48 V | 13 A | S8FS-G60048CD | | |

Note: Ask your OMRON representative for pricing information on optional models.

*1. The output electric power is 40 W.

*2. The output electric power is 80 W.

*3. The output electric power is 105 W.

*4. Applicable to products produced from May 2018.

*5. Production started in July 2022.

*6. Production started in August 2022.

With Cover/DIN Rail Mounting (Extended hold time type)

| Power ratings | Input voltage | Output voltage (VDC) | Output current | Built-in fan | Model |
|---------------|---|----------------------|----------------|--------------|-----------------|
| 300 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 370 VDC) | 24 V | 14 A | Yes | S8FS-G30024CD-H |
| 600 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 350 VDC) | | 27 A | | S8FS-G60024CD-H |

With Cover/Direct Mounting

| Power ratings | Input voltage | Output voltage (VDC) | Output current | Built-in fan | Model |
|---------------|--|----------------------|---------------------|--------------|--------------|
| 15 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 80 to 370 VDC) *4 | 5 V | 3 A | None | S8FS-G01505C |
| | | 12 V | 1.3 A | | S8FS-G01512C |
| | | 15 V | 1 A | | S8FS-G01515C |
| | | 24 V | 0.65 A | | S8FS-G01524C |
| 30 W | | 5 V | 6 A | | S8FS-G03005C |
| | | 12 V | 3 A | | S8FS-G03012C |
| | | 15 V | 2.4 A | | S8FS-G03015C |
| | | 24 V | 1.5 A | | S8FS-G03024C |
| 50 W | | 5 V | 8 A *1 | | S8FS-G05005C |
| | | 12 V | 4.3 A | | S8FS-G05012C |
| | | 15 V | 3.5 A | | S8FS-G05015C |
| | | 24 V | 2.2 A | | S8FS-G05024C |
| 100 W | | 5 V | 16 A *2 | | S8FS-G10005C |
| | | 12 V | 8.5 A | | S8FS-G10012C |
| | | 15 V | 7 A | | S8FS-G10015C |
| | | 24 V | 4.5 A | | S8FS-G10024C |
| 150 W | 5 V | 21 A *3 | S8FS-G15005C | | |
| | 12 V | 13 A | S8FS-G15012C | | |
| | 15 V | 10 A | S8FS-G15015C | | |
| | 24 V | 6.5 A | S8FS-G15024C | | |
| 300 W | 48 V | 3.3 A | S8FS-G15024C-500 *5 | | |
| | 12 V | 25 A | S8FS-G30012C | | |
| | 15 V | 20 A | S8FS-G30015C | | |
| | 24 V | 14 A | S8FS-G30024C | | |
| 600 W | 48 V | 7 A | S8FS-G30024C-500 *6 | | |
| | 12 V | 50 A | S8FS-G30048C | | |
| | 15 V | 40 A | S8FS-G60012C | | |
| | 24 V | 27 A | S8FS-G60015C | | |
| 600 W | 48 V | 13 A | S8FS-G60024C | | |
| | 12 V | 25 A | S8FS-G60024C-500 *6 | | |
| | 15 V | 20 A | S8FS-G60048C | | |
| | 24 V | 14 A | S8FS-G60012C | | |

Note: 1. Ask your OMRON representative for pricing information on optional models.

2. Front-mounting is not possible.

To mount a Power Supply from the front, purchase a DIN Rail-mounting Power Supply and a Front-mounting Bracket (sold separately). Refer to page 27.

With Cover/Direct Mounting (Extended hold time type)

| Power ratings | Input voltage | Output voltage (VDC) | Output current | Built-in fan | Model |
|---------------|---|----------------------|----------------|--------------|----------------|
| 300 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 370 VDC) | 24 V | 14 A | Yes | S8FS-G30024C-H |
| 600 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 120 to 350 VDC) | | 27 A | | S8FS-G60024C-H |

With Cover/Direct Mounting (Connector type)

| Power ratings | Input voltage | Output voltage (VDC) | Output current | Built-in fan | Model |
|---------------|--|----------------------|----------------|--------------|---------------|
| 15 W | 100 to 240 VAC (Permissible range 85 to 264 VAC, 80 to 370 VDC) *4 | 24 V | 0.65 A | None | S8FS-G01524CE |
| 30 W | | | 1.5 A | | S8FS-G03024CE |
| 50 W | | | 2.2 A | | S8FS-G05024CE |
| 100 W | | | 4.5 A | | S8FS-G10024CE |
| 150 W | | | 6.5 A | | S8FS-G15024CE |

*1. The output electric power is 40 W.

*2. The output electric power is 80 W.

*3. The output electric power is 105 W.

*4. Applicable to products produced from May 2018.

*5. Production started in July 2022.

*6. Production started in August 2022.

Specifications

| Item | Power rating | | 15 W | | | |
|---|---------------------------------|--------------------------------------|---|---------------|---------------|---------------|
| | Output voltage (VDC) | | 5 V | 12 V | 15 V | 24 V |
| Efficiency *1 | 100 VAC input | | 80% typ. | 84% typ. | 84% typ. | 85% typ. |
| | 200 VAC input | | 80% typ. | 84% typ. | 84% typ. | 86% typ. |
| | 230 VAC input | | 80% typ. | 84% typ. | 84% typ. | 86% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 80 to 370 VDC | | | |
| | Frequency *1 | | 50/60 Hz (47 to 450 Hz) | | | |
| | Current *1 | 100 VAC input | 0.32 A typ. | | | |
| | | 200 VAC input | 0.2 A typ. | | | |
| | Power factor *1 | | --- | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| | | 200 VAC input | 1 mA max. | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 3 A | 1.3 A | 1 A | 0.65 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 40 mVp-p max. | 40 mVp-p max. | 40 mVp-p max. | 60 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | Startup time *1 | 100 VAC input | 1,000 ms max. | | | |
| | | 200 VAC input | 1,000 ms max. | | | |
| | Hold time *1 | 100 VAC input | 15 ms typ. | 14 ms typ. | 15 ms typ. | 15 ms typ. |
| | | 200 VAC input | 75 ms typ. | 70 ms typ. | 75 ms typ. | 70 ms typ. |
| Additional functions | Overload protection | | Yes, automatic reset | | | |
| | Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Overheat protection | | No | | | |
| | Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | |
| | Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | |
| | Remote sensing | | No | | | |
| | Remote control | | No | | | |
| Output indicator | | Yes (LED: Green) | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | |
| | Insulation resistance | | 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| Reliability | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| | MTBF | | 135,000 hrs min. | | | |
| Construction | Life expectancy *1 | | 10 years min. | | | |
| | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 19. | | | |
| Standards | Weight | | 250 g | | | |
| | Cooling fan | | No | | | |
| | Degree of protection | | --- | | | |
| | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| Standards | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with connector option) UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.62368-1 (excluding models with connector option) EN 62477-1 (OVCI [≤ 2,000 m], OVCI [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) RCM (EN61000-6-4) | | | |
| | Marine Standards | | No | | | |
| SEMI | | Conforms to F47-0706 (200 VAC input) | | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 30 W | | | |
|---|---------------------------------|--------------------------------------|---|---------------|---------------|---------------|
| | Output voltage (VDC) | | 5 V | 12 V | 15 V | 24 V |
| Efficiency *1 | 100 VAC input | | 81% typ. | 84% typ. | 86% typ. | 86% typ. |
| | 200 VAC input | | 81% typ. | 86% typ. | 88% typ. | 88% typ. |
| | 230 VAC input | | 81% typ. | 86% typ. | 88% typ. | 89% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 80 to 370 VDC | | | |
| | Frequency *1 | | 50/60 Hz (47 to 450 Hz) | | | |
| | Current *1 | 100 VAC input | 0.72 A typ. | | | |
| | | 200 VAC input | 0.43 A typ. | | | |
| | Power factor *1 | | --- | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| | | 200 VAC input | 1 mA max. | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 6 A | 3 A | 2.4 A | 1.5 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 50 mVp-p max. | 60 mVp-p max. | 50 mVp-p max. | 60 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | Startup time *1 | 100 VAC input | 1,000 ms max. | | | |
| | | 200 VAC input | 1,000 ms max. | | | |
| | Hold time *1 | 100 VAC input | 11 ms typ. | 10 ms typ. | 11 ms typ. | 10 ms typ. |
| | | 200 VAC input | 60 ms typ. | 50 ms typ. | 50 ms typ. | 55 ms typ. |
| Additional functions | Overload protection | | Yes, automatic reset | | | |
| | Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Overheat protection | | No | | | |
| | Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | |
| | Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | |
| | Remote sensing | | No | | | |
| | Remote control | | No | | | |
| Output indicator | | Yes (LED: Green) | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | |
| | Insulation resistance | | 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| Reliability | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| | MTBF | | 135,000 hrs min. | | | |
| Construction | Life expectancy *1 | | 10 years min. | | | |
| | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 19. | | | |
| Standards | Weight | | 250 g | | | |
| | Cooling fan | | No | | | |
| | Degree of protection | | --- | | | |
| | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| Standards | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with connector option) UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.62368-1 (excluding models with connector option) EN 62477-1 (OVCI [≤ 2,000 m], OVCI [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) RCM (EN61000-6-4) | | | |
| | Marine Standards | | No | | | |
| SEMI | | Conforms to F47-0706 (200 VAC input) | | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 50 W | | | |
|---|---------------------------------|--|---|----------------------|---------------|---------------|
| | Output voltage (VDC) | | 5 V | 12 V | 15 V | 24 V |
| Efficiency *1 | 100 VAC input | | 81% typ. | 84% typ. | 86% typ. | 86% typ. |
| | 200 VAC input | | 82% typ. | 86% typ. | 88% typ. | 89% typ. |
| | 230 VAC input | | 82% typ. | 86% typ. | 88% typ. | 89% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 80 to 370 VDC | | | |
| | Frequency *1 | | 50/60 Hz (47 to 450 Hz) | | | |
| | Current *1 | 100 VAC input | 1.1 A typ. | | | |
| | | 200 VAC input | 0.62 A typ. | | | |
| | Power factor *1 | | --- | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| | | 200 VAC input | 1 mA max. | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 8 A | 4.3 A | 3.5 A | 2.2A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 40 mVp-p max. | 40 mVp-p max. | 40 mVp-p max. | 60 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | | Startup time *1 | | 1,000 ms max. | | |
| | Hold time *1 | 100 VAC input | 14 ms typ. | 11 ms typ. | 10 ms typ. | 10 ms typ. |
| | | 200 VAC input | 75 ms typ. | 60 ms typ. | 60 ms typ. | 55 ms typ. |
| | Additional functions | Overload protection | | Yes, automatic reset | | |
| Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | | |
| Overheat protection | | No | | | | |
| Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | | |
| Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | | |
| Remote sensing | | No | | | | |
| Remote control | | No | | | | |
| Output indicator | | Yes (LED: Green) | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA | | | |
| | | | 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA | | | |
| | | | 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | |
| 500 VAC for 1 min. (between all output terminals and RC terminals) current cutoff 20 mA | | | | | | |
| Insulation resistance | | 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| Reliability | MTBF | | 135,000 hrs min. | | | |
| | Life expectancy *1 | | 10 years min. | | | |
| Construction | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 20. | | | |
| | Weight | | 300 g | | | |
| | Cooling fan | | No | | | |
| | Degree of protection | | --- | | | |
| Standards | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with connector option) UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.62368-1 (excluding models with connector option) EN 62477-1 (OVCIII [≤ 2,000 m], OVCII [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCII [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) RCM (EN61000-6-4) | | | |
| | Marine Standards | | No | | | |
| SEMI | | Conforms to F47-0706 (200 VAC input) | | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 100 W | | | |
|---|---------------------------------|--|--|----------------------|----------------|---------------|
| | Output voltage (VDC) | | 5 V | 12 V | 15 V | 24 V |
| Efficiency *1 | 100 VAC input | | 79% typ. | 84% typ. | 85% typ. | 87% typ. |
| | 200 VAC input | | 81% typ. | 86% typ. | 87% typ. | 89% typ. |
| | 230 VAC input | | 81% typ. | 86% typ. | 87% typ. | 89% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 80 to 370 VDC | | | |
| | Frequency *1 | | 50/60 Hz (47 to 450 Hz) | | | |
| | Current *1 | 100 VAC input | 2.1 A typ. | | | |
| | | 200 VAC input | 1.2 A typ. | | | |
| | Power factor *1 | | --- | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| | | 200 VAC input | 1 mA max. | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 16 A | 8.5 A | 7 A | 4.5 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 70 mVp-p max. | 90 mVp-p max. | 100 mVp-p max. | 80 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | | Startup time *1 | | 1,000 ms max. | | |
| | Hold time *1 | 100 VAC input | 12 ms typ. | 11 ms typ. | 11 ms typ. | 10 ms typ. |
| | | 200 VAC input | 70 ms typ. | 55 ms typ. | 55 ms typ. | 55 ms typ. |
| | Additional functions | Overload protection | | Yes, automatic reset | | |
| Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | | |
| Overheat protection | | No | | | | |
| Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | | |
| Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | | |
| Remote sensing | | No | | | | |
| Remote control | | Yes (Only for models with remote control option) | | | | |
| Output indicator | | Yes (LED: Green) | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA | | | |
| | | | 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA | | | |
| | | | 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | |
| Insulation resistance | | Only Remote control 500 VAC for 1 min. (between all output terminals and RC terminals) current cutoff 20 mA 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature. Refer to Engineering Data) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| Reliability | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| | MTBF | | 135,000 hrs min. | | | |
| Construction | Life expectancy *1 | | 10 years min. | | | |
| | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 21. | | | |
| | Weight | | 400 g | | | |
| | Cooling fan | | No | | | |
| Degree of protection | | --- | | | | |
| Standards | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with connector option or remote control option) UL 508 (Recognition, models with remote control option) UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option or remote control option) CSA C22.2 No.62368-1 (excluding models with connector option or remote control option) EN 62477-1 (OVCI [≤ 2,000 m], OVCI [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) (Excluding S8FS-G10024C-500 and S8FS-G10024CD-500) RCM (EN61000-6-4) | | | |
| | Marine Standards | | No | | | |
| | SEMI | | Conforms to F47-0706 (200 VAC input) | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 150 W | | | | |
|---|---------------------------------|--|--|----------------------|---------------|----------------|----------------|
| | Output voltage (VDC) | | 5 V | 12 V | 15 V | 24 V | 48 V |
| Efficiency *1 | 100 VAC input | | 78% typ. | 84% typ. | 85% typ. | 87% typ. | 85% typ. |
| | 200 VAC input | | 81% typ. | 87% typ. | 88% typ. | 89% typ. | 88% typ. |
| | 230 VAC input | | 81% typ. | 87% typ. | 88% typ. | 90% typ. | 88% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 80 to 370 VDC | | | | |
| | Frequency *1 | | 50 /60 Hz (47 to 450 Hz) | | | | |
| | Current *1 | 100 VAC input | 3 A typ. | | | | |
| | | 200 VAC input | 1.8 A typ. | | | | |
| | Power factor *1 | | --- | | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | | |
| 200 VAC input | | 1 mA max. | | | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | | |
| | 200 VAC input | 28 A typ. | | | | | |
| Output | Rated Output Current | | 21 A | 13 A | 10 A | 6.5 A | 3.3 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 100 mVp-p max. | 110 mVp-p max. | 80 mVp-p max. | 110 mVp-p max. | 120 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | | |
| | Load variation influence *1 | | 1.0% max. | | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | | |
| | | Startup time *1 | | 1,000 ms max. | | | |
| | Hold time *1 | 100 VAC input | 14 ms typ. | 10 ms typ. | 10 ms typ. | 10 ms typ. | 11 ms typ. |
| | | 200 VAC input | 80 ms typ. | 55 ms typ. | 55 ms typ. | 55 ms typ. | 55 ms typ. |
| | Additional functions | Overload protection | | Yes, automatic reset | | | |
| Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | | | |
| Overheat protection | | No | | | | | |
| Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | | | |
| Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | | | |
| Remote sensing | | No | | | | | |
| Remote control | | Yes (Only for models with remote control option) | | | | | |
| Output indicator | | Yes (LED: Green) | | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min.(between all input terminals and output terminals) current cutoff 20 mA | | | | |
| | | | 2 kVAC for 1 min.(between all input terminals and PE terminals) current cutoff 20 mA | | | | |
| | | | 1 kVAC for 1 min.(between all output terminals and PE terminals) current cutoff 20 mA | | | | |
| Insulation resistance | | Only Remote control 500 VAC for 1 min.(between all output terminals and RC terminals) current cutoff 20 mA | | | | | |
| Insulation resistance | | 100 MΩ min.(between all output terminals and all input terminals/PE terminals) at 500 VDC | | | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature. Refer to Engineering Data) (with no condensation or icing) | | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | | |
| | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | | |
| Reliability | MTBF | | 135,000 hrs min. | | | | |
| | Life expectancy *1 | | 10 years min. | | | | |
| Construction | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 23. | | | | |
| | Weight | | 500 g | | | | |
| | Cooling fan | | No | | | | |
| | Degree of protection | | --- | | | | |
| Standards | Harmonic current emissions | | Conforms to EN 61000-3-2 (Applicable at 80% or less of the rated load.) | | | | |
| | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with connector option or remote control option) UL 508 (Recognition, models with remote control option) UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option or remote control option) CSA C22.2 No.62368-1 (excluding models with connector option or remote control option) EN 62477-1 (OVCI [≤ 2,000 m], OVCII [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) (Excluding S8FS-G15024C-500 and S8FS-G15024CD-500) RCM (EN61000-6-4) BIS (IS 13252 (Part 1)/IEC 60950-1) (Output voltage 24 V type only. However, excluding S8FS-G15024C-500 and S8FS-G15024CD-500.) | | | | |
| | Marine Standards | | No | | | | |
| SEMI | | Conforms to F47-0706 (200 VAC input) | | | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 300 W | | | |
|--|---------------------------------|---|--|----------------|--|----------------|
| | Output voltage (VDC) | | 12 V | 15 V | 24 V | 48 V |
| Efficiency *1 | 100 VAC input | | 81% typ. | 81% typ. | 82% typ. | 82% typ. |
| | 200 VAC input | | 85% typ. | 85% typ. | 87% typ. | 87% typ. |
| | 230 VAC input | | 85% typ. | 86% typ. | 87% typ. | 87% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 120 to 370 VDC | | | |
| | Frequency *1 | | 50/60 Hz (47 to 63 Hz) | | | |
| | Current *1 | 100 VAC input | 4.2 A typ. | | | |
| | | 200 VAC input | 2.1 A typ. | | | |
| | Power factor *1 | | 0.9 min. | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| 200 VAC input | | 1 mA max. | | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 25 A | 20 A | 14 A | 7 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 140 mVp-p max. | 270 mVp-p max. | 150 mVp-p max. | 330 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | | Startup time *1 | 100 VAC input | 1,000 ms max. | | |
| | | 200 VAC input | 1,000 ms max. | | | |
| | Hold time *1 | 100 VAC input | 30 ms typ. | 30 ms typ. | 30 ms typ. 40 ms typ. (Extended hold time type) | 30 ms typ. |
| | | 200 VAC input | 30 ms typ. | 25 ms typ. | 30 ms typ. 40 ms typ. (Extended hold time type) | 30 ms typ. |
| Additional functions | Overload protection | | Yes, automatic reset | | | |
| | Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Overheat protection | | Yes, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | |
| | Parallel operation | | No (However, backup operation is possible, external diodes are required.) | | | |
| | Remote sensing | | No | | | |
| | Remote control | | Yes (Only for models with remote control option) | | | |
| Output indicator | | Yes (LED: Green) | | | | |
| Insulation | Withstand voltage | | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA | | | |
| | | | 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA | | | |
| | | | 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | |
| Insulation resistance | | 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| Reliability | MTBF | | 135,000 hrs min. | | | |
| | Life expectancy *1 | | 10 years min. | | | |
| Construction | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 25 | | | |
| | Weight | | 700 g | | | |
| | Cooling fan | | Yes | | | |
| | Degree of protection | | --- | | | |
| Standards | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with remote control option) | | | |
| | | | UL 508 (Recognition, models with remote control option) | | | |
| | | | UL 62368-1 (Recognition, OVCII [≤ 3,000 m], Pol2) | | | |
| CSA C22.2 No.107.1 (excluding models with remote control option) | | | | | | |
| CSA C22.2 No.62368-1 (excluding models with remote control option) | | | | | | |
| | | EN 62477-1 (OVCI [≤ 2,000 m], OVCI [> 2,000 m and ≤ 3,000 m], Pol2) | | | | |
| | | EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) | | | | |
| | | Conforms to EN/IEC 61558-2-16 | | | | |
| | | Conforms to PELV (EN/IEC 60204-1) | | | | |
| | | EAC (TR CU 004/2011, TR CU 020/2011) (Excluding S8FS-G30024C-500 and S8FS-G30024CD-500) | | | | |
| | | RCM (EN61000-6-4) | | | | |
| | | BIS (IS 13252 (Part 1)/IEC 60950-1) (Output voltage 24 V type only. However, excluding S8FS-G30024C-500 and S8FS-G30024CD-500.) | | | | |
| Marine Standards | | No | | | | |
| SEMI | | Conforms to F47-0706 (200 VAC input) | | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

| Item | Power rating | | 600 W | | | |
|--|---------------------------------|--|--|----------------|--|----------------|
| | Output voltage (VDC) | | 12 V | 15 V | 24 V | 48 V |
| Efficiency *1 | 100 VAC input | | 84% typ. | 84% typ. | 85% typ. | 88% typ. |
| | 200 VAC input | | 88% typ. | 88% typ. | 89% typ. | 92% typ. |
| | 230 VAC input | | 88% typ. | 88% typ. | 90% typ. | 92% typ. |
| Input | Voltage range *1 | | Single phase, 85 to 264 VAC, 120 to 350 VDC | | | |
| | Frequency *1 | | 50 /60 Hz(47 to 63 Hz) | | | |
| | Current *1 | 100 VAC input | 7.7 A typ. | | | |
| | | 200 VAC input | 3.8 A typ. | | | |
| | Power factor *1 | | 0.9 min. | | | |
| | Leakage current *1 | 100 VAC input | 0.5 mA max. | | | |
| | | 200 VAC input | 1 mA max. | | | |
| Inrush current *1 (for a cold start at 25°C) | 100 VAC input | 14 A typ. | | | | |
| | 200 VAC input | 28 A typ. | | | | |
| Output | Rated Output Current | | 50 A | 40 A | 27 A | 13 A |
| | Voltage adjustment range *1 | | -10% to 15% (with V.ADJ) | | | |
| | Ripple & Noise voltage *1 | 100 to 240 VAC input | 170 mVp-p max. | 170 mVp-p max. | 280 mVp-p max. | 340 mVp-p max. |
| | Input variation influence *1 | | 0.5% max. | | | |
| | Load variation influence *1 | | 1.0% max. | | | |
| | Temperature variation influence | 100 to 240 VAC input | 0.05%/°C max. | | | |
| | Startup time *1 | 100 VAC input | 1,000 ms max. | | | |
| | | 200 VAC input | 1,000 ms max. | | | |
| | Hold time *1 | 100 VAC input | 30 ms typ. | 25 ms typ. | 30 ms typ. 40 ms typ. (Extended hold time type) | 30 ms typ. |
| | | 200 VAC input | 30 ms typ. | 25 ms typ. | 30 ms typ. 40 ms typ. (Extended hold time type) | 30 ms typ. |
| Additional functions | Overload protection | | Yes, automatic reset | | | |
| | Overvoltage protection *1 | | Yes, 120% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Overheat protection | | Yes, power shut off (shut off the input voltage and turn on the input again) | | | |
| | Series operation | | Yes (For up to two Power Supplies, external diodes are required.) | | | |
| | Parallel operation | | Yes (up to five Power Supplies, S8FS-G60024 (models with parallel operation option) only). | | | |
| | Remote sensing | | No | | | |
| | Remote control | | Yes (Only Remote control) | | | |
| Insulation | Output indicator | | Yes (LED: Green) | | | |
| | Withstand voltage | 3 kVAC for 1 min. (between all input terminals and output terminals) current cutoff 20 mA | | | | |
| | | 2 kVAC for 1 min. (between all input terminals and PE terminals) current cutoff 20 mA | | | | |
| 1 kVAC for 1 min. (between all output terminals and PE terminals) current cutoff 20 mA | | | | | | |
| Insulation resistance | | 100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC | | | | |
| Environment | Ambient operating temperature | | -20 to 70°C (Derating is required according to the temperature.) (with no condensation or icing) | | | |
| | Storage temperature | | -25 to 75°C (with no condensation or icing) | | | |
| | Ambient operating humidity | | 90% max. (Storage humidity: 90% max.) | | | |
| | Vibration resistance | | 10 to 55 Hz, 4.5 G max., 0.375-mm half amplitude for 2 h each in X, Y, and Z directions | | | |
| | Shock resistance | | 150 m/s ² , 3 times each in ±X, ±Y, ±Z directions | | | |
| Reliability | MTBF | | 135,000 hrs min. | | | |
| | Life expectancy *1 | | 10 years min. | | | |
| Construction | Dimensions (W×H×D) | | Refer to <i>Dimensions</i> on page 26. | | | |
| | Weight | | 1,050 g | | | |
| | Cooling fan | | Yes | | | |
| | Degree of protection | | --- | | | |
| Standards | Harmonic current emissions | | Conforms to EN 61000-3-2 | | | |
| | EMI *1 | Conducted Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | | Radiated Emissions | Conforms to EN 61204-3 Class B, EN 55011 Class B | | | |
| | EMS | | Conforms to EN 61204-3 high severity levels | | | |
| | Safety Standards *2 | | UL 508 (Listing, excluding models with remote control option) UL 508 (Recognition, models with remote control option) UL 62368-1 (Recognition, OVCII ≤ 3,000 m, Pol2) CSA C22.2 No.107.1 (excluding models with remote control option) CSA C22.2 No.62368-1 (excluding models with remote control option) EN 62477-1 (OVCIII ≤ 2,000 m, OVCI [> 2,000 m and ≤ 3,000 m], Pol2) EN/IEC 62368-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16 Conforms to PELV (EN/IEC 60204-1) EAC (TR CU 004/2011, TR CU 020/2011) (Excluding S8FS-G60024C-500 and S8FS-G60024CD-500) RCM (EN61000-6-4) BIS (IS 13252 (Part 1)/IEC 60950-1) (Output voltage 24 V type only. However, excluding S8FS-G60024C-500 and S8FS-G60024CD-500.) | | | |
| | Marine Standards | | No | | | |
| | SEMI | | Conforms to F47-0706 (200 VAC input) | | | |

*1. Refer to *Ratings, Characteristics, and Functions* on page 11.

*2. Refer to *Standard Compliance* on page 11.

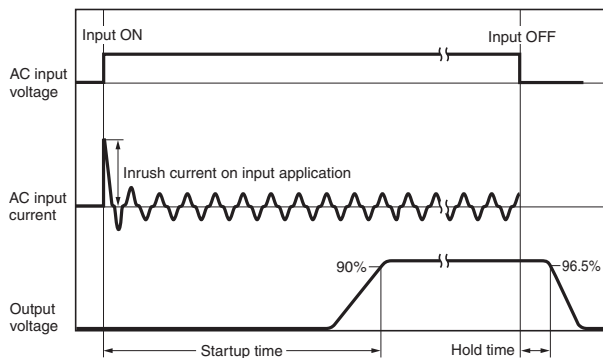
Ratings, Characteristics, and Functions

| | | |
|-----------------------------|--|--|
| Efficiency | | The value is when both rated output voltage and rated output current are satisfied. |
| Input | Voltage range | Do not use an inverter output for the Power Supply. Inverters with an output frequency of 50/60 Hz are available, but the rise in the internal temperature of the Power Supply may result in ignition or burning. |
| | Frequency | |
| | Current | The value is when both rated output voltage and rated output current are satisfied. |
| | Power factor | The value is when both rated output voltage and rated output current are satisfied. |
| | Leakage current | The values are determined according to the Act on Power Supply Safety of Electrical Appliances and Materials. |
| | Inrush current (for a cold start at 25°C) | For a cold start at 25°C. Refer to the following figure. |
| Output | Voltage adjustment range | If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +15% of the voltage adjustment range. When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged. |
| | Ripple & Noise voltage | The value is when both rated output voltage and rated output current are satisfied. A characteristic when the ambient operating temperature is 25°C. |
| | Input variation influence | This is the maximum variation in the output voltage when the input voltage is gradually changed within the allowable input voltage range at the rated output voltage and rated output current. |
| | Load variation influence | This is the value when the output current is changed from 0 A to the rated output current while the input voltage is within the allowable input voltage. |
| | Startup time | The value is when both rated output voltage and rated output current are satisfied. For a cold start at 25°C. Refer to the following figure. |
| | Hold time | The value is when both rated output voltage and rated output current are satisfied. At 25°C. Refer to the following figure. |
| Additional functions | Overvoltage protection | Refer to <i>Overvoltage Protection</i> on page 18 for the time when input voltage shuts off and input turns on again. |
| Reliability | Life expectancy | Refer to <i>Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance</i> on page 33 for details. |
| Standards | EMI | Conducted Emissions |
| | | Radiated Emissions |
| | | The 150-W and higher models conform to Class B when an aluminum plate is set under the Power Supply. |

Standard Compliance

- The input voltage range for compliance with EC Directives and other safety standards (UL, EN, etc.) is 90 to 264 VAC.
 - EN/IEC 61558-2-16
To comply with EN/IEC 60204-1 (Machine Safety), a transformer is required in the control circuit. If, however, a Power Supply that has a built-in transformer that complies with EN/IEC 6155-8-2-16 is used, an external transformer is not required.
 - Safety standard targets during a DC input *
During a DC input, UL 62368-1, cUR (CSA C22.2 No. 62368-1), EN/IEC 62368-1, EN 62477-1, EN/IEC 61558-2-16, and EN/IEC 60204-1 are safety standard targets. (However, the input voltage range is 120 to 320 VDC. The safety standards during DC input are not acquired for the S8FS-G60048□.)
It is possible to comply with the safety standards by connecting a UL-authenticated fuse. Select a UL-authenticated fuse that satisfies the following conditions:
 - S8FS-G015□□/030□□ (320 VDC or above, 3 A)
 - S8FS-G050□□ (320 VDC or above, 4 A)
 - S8FS-G100□□ (320 VDC or above, 8 A)
 - S8FS-G150□□ (320 VDC or above, 10 A)
 - S8FS-G300□□ (320 VDC or above, 12 A)
 - S8FS-G600□□ (320 VDC or above, 20 A)
 - To comply with the PELV output of the EN/IEC 60204-1, ground the output negative side (-V) to PE. *
- * Applicable to products produced from May 2018

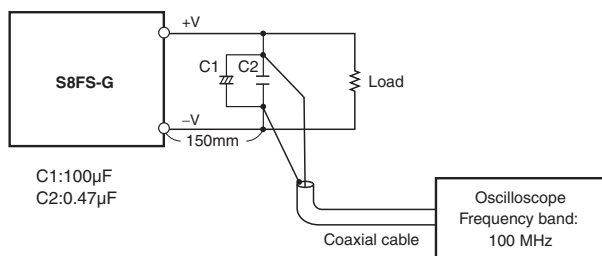
Inrush Current, Startup Time, Output Hold Time



Note: The total inrush current of all of the Power Supplies will flow for parallel operation or backup operation. Sufficiently check the fusing characteristics of fuses and the operating characteristics of breakers and select fuses and breakers so that external fuses will not burn out or breakers will not operate due to inrush current.

Ripple Noise Voltage

The specified standard for the ripple voltage noise was measured with a measurement circuit that is based on JEITA standard RC-9131A.



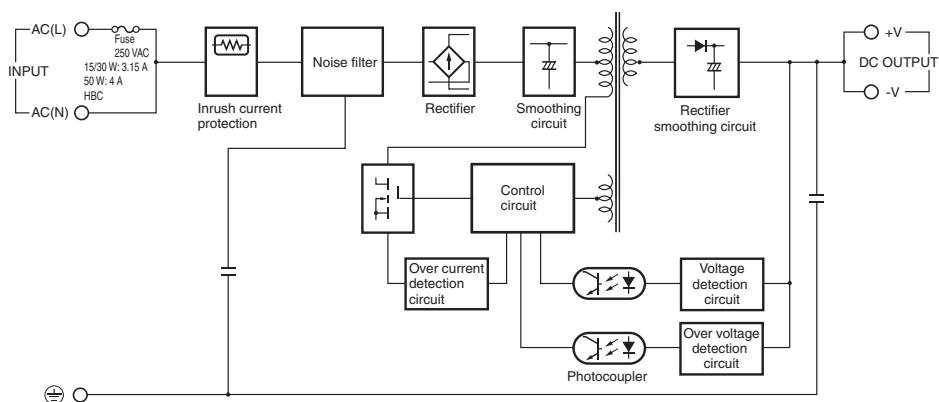
Connections

Block Diagrams

S8FS-G015□□□ (15 W)

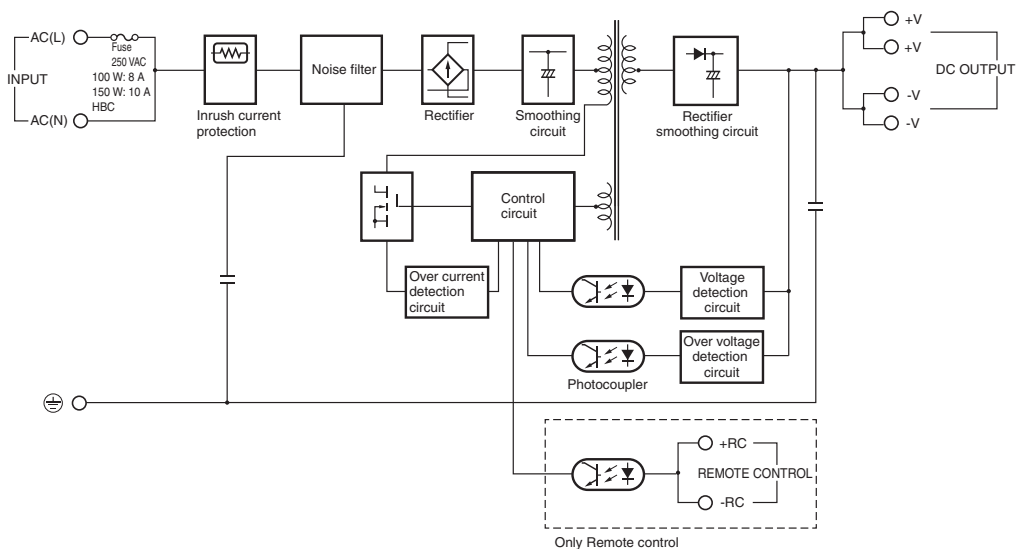
S8FS-G030□□□ (30 W)

S8FS-G050□□□ (50 W)



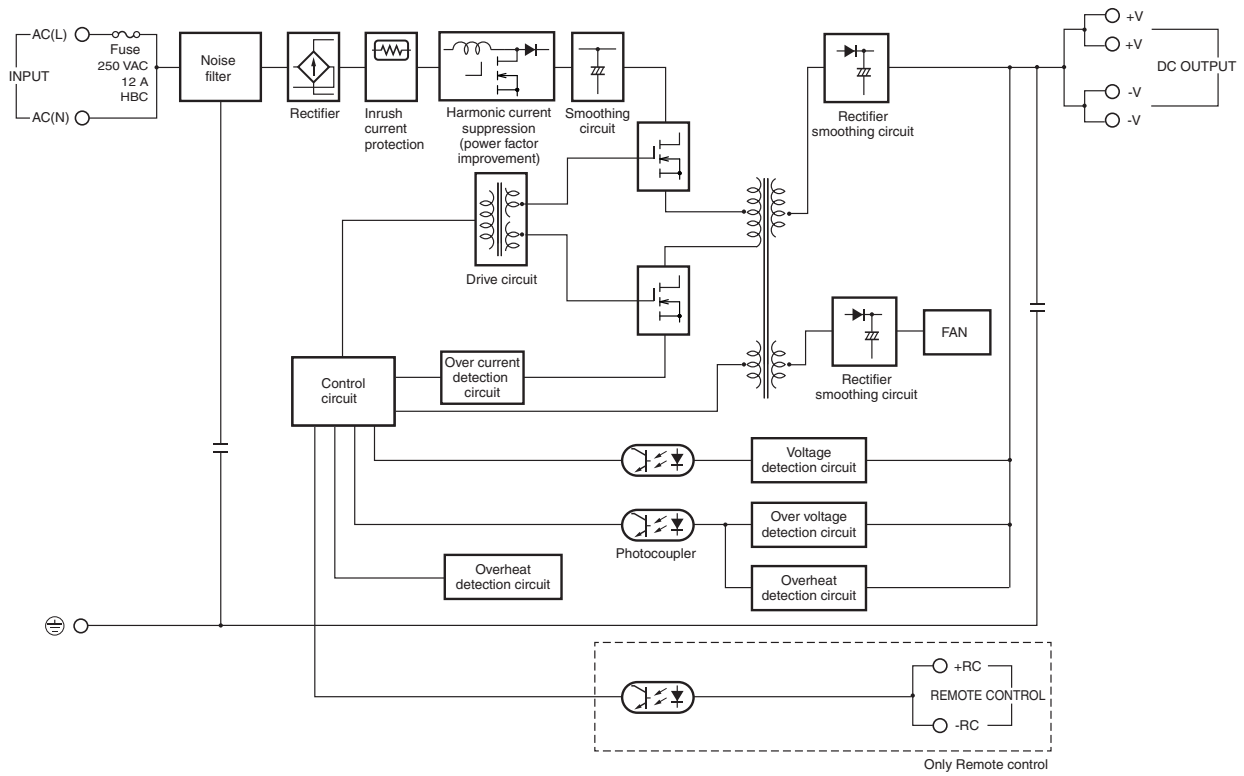
S8FS-G100□□□ (100 W)

S8FS-G150□□□ (150 W)

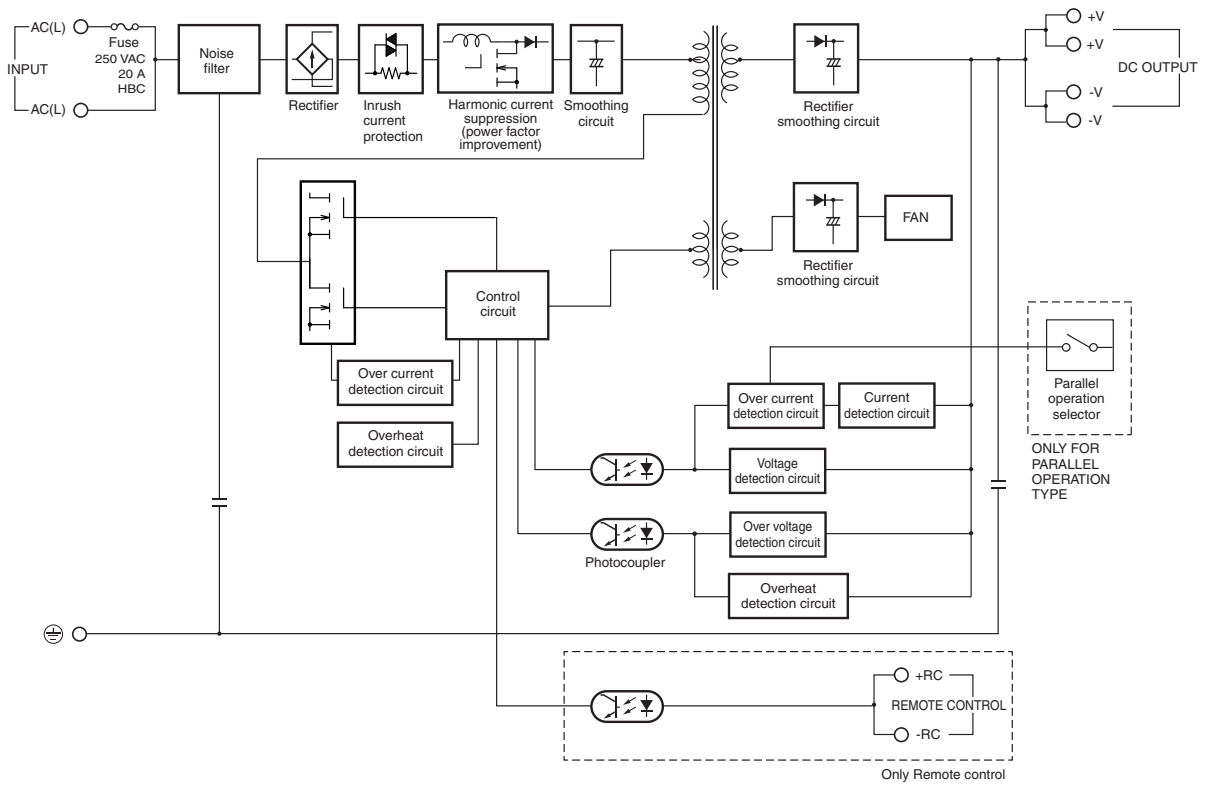


S8FS-G

S8FS-G300 (300 W)



S8FS-G600 (600 W)



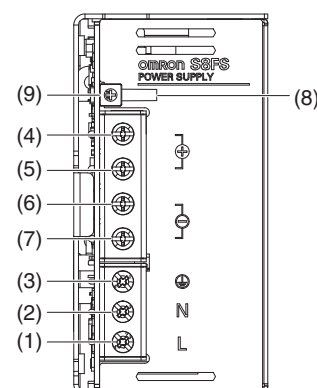
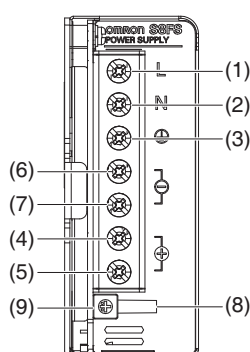
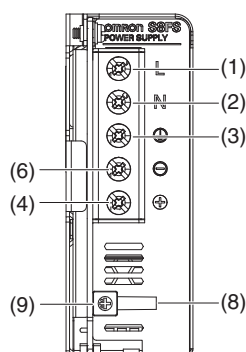
Construction and Nomenclature

Nomenclature

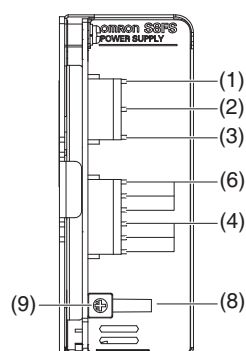
S8FS-G015□□□□
S8FS-G030□□□□
S8FS-G050□□□□

S8FS-G100□□□□
S8FS-G150□□□□

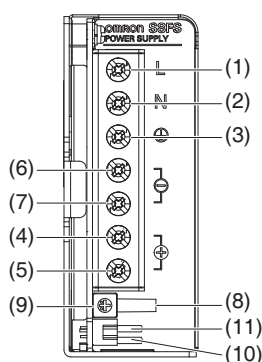
S8FS-G300□□□□
S8FS-G600□□□□



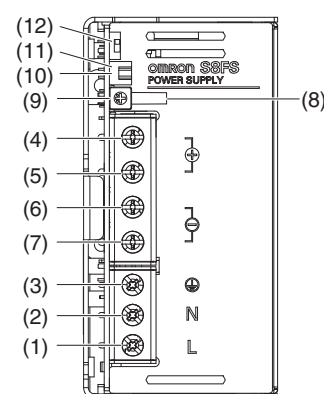
S8FS-G□□□24CE



S8FS-G□□□24C-R



S8FS-G□□□24C-WR



| No. | Terminal name | Name | Function |
|------|---------------|---------------------------------|--|
| (1) | L | Input terminals | Connect the input lines to these terminals. *1 |
| (2) | N | | |
| (3) | PE | | |
| (4) | +V1 | DC output terminals | Connect the load lines to these terminals. |
| (5) | +V2 | | |
| (6) | -V1 | | |
| (7) | -V2 | | |
| (8) | --- | Output indicator (DC ON: green) | Lights while a direct current (DC) output is ON. |
| (9) | --- | Output voltage adjuster (V.ADJ) | Use to adjust the voltage. |
| (10) | +RC | Remote control terminals | Wire for remote control. |
| (11) | -RC | | |
| (12) | --- | Parallel operation switch | To operate in parallel, set the switch to the "PARALLEL" side. |

*1. The fuse is located on the (L) side. It is not user-replaceable. For a DC input, connect the positive voltage to the L terminal.

*2. This is the protective earth terminal specified in the safety standards. Always ground this terminal.

Input and Output Connectors (Connector type)

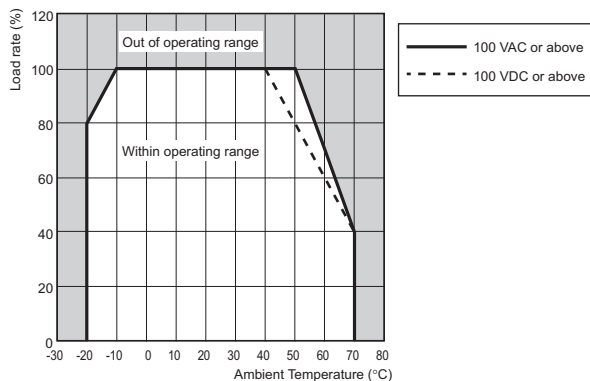
| | | Applicable connector | Housing | Terminals | Applicable crimp tool |
|--------------|--|-----------------------|-------------------|-----------|-----------------------|
| Input side | All models | CN110 | B3P5-VH (LF) (SN) | VHR-5N | YC-160R |
| Output side | S8FS-G01524□□E S8FS-G03024□□E S8FS-G05024□□E | CN510 | B4P-VH (LF) (SN) | VHR-4N | |
| | S8FS-G10024□□E S8FS-G15024□□E | | B6P-VH (LF) (SN) | VHR-6N | |
| Manufacturer | | J.S.T. Mfg. Co., Ltd. | | | |

Note: The female connectors that are required for wiring are not provided with the Power Supply.

Derating Curves

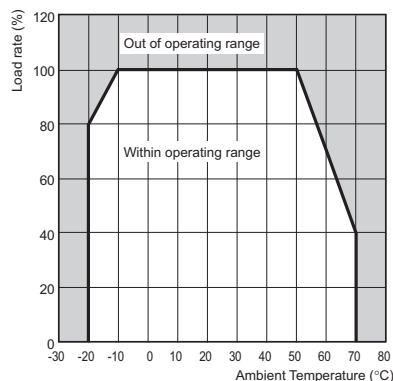
Output Derating

Standalone operation (15 W to 150 W)



Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

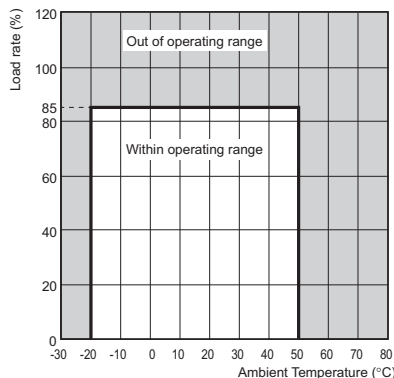
Standalone operation (300 W/600 W)



Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

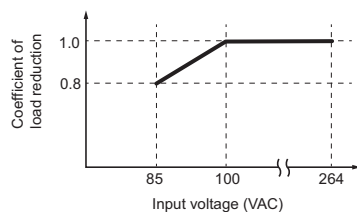
Parallel Operation

For Models with Parallel Operation Option



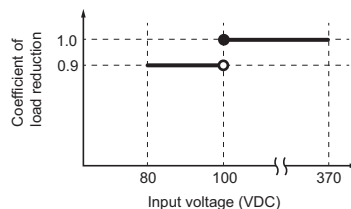
Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

Coefficient of load reduction to input voltage AC input (15 W to 600 W)



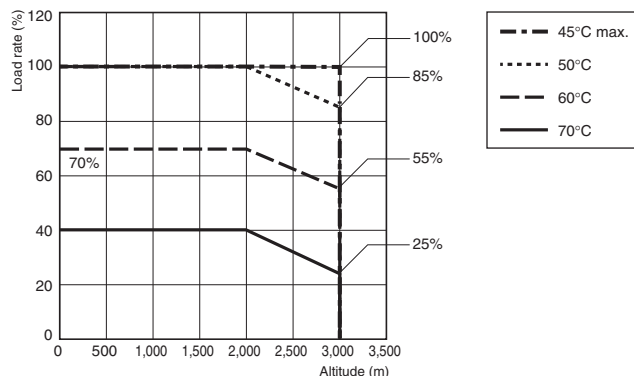
* 15 W/30 W/50 W/100 W/150 W only when used at ambient temperature 40°C or higher

DC input (15 W to 150 W)



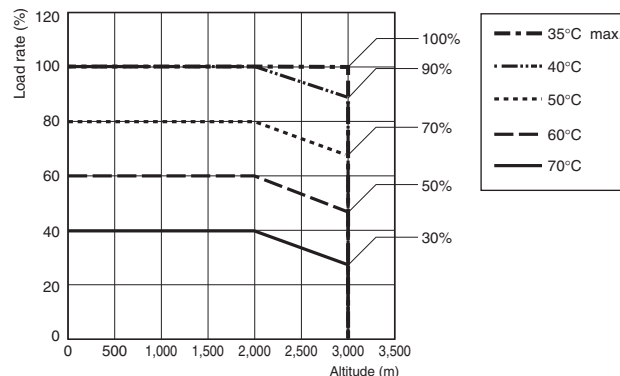
This Power Supply can be used at an altitude of 3,000 m.
Between 2,000 and 3,000 m, derate the load according to the following derating curve.

15 W to 150 W (During an AC input)



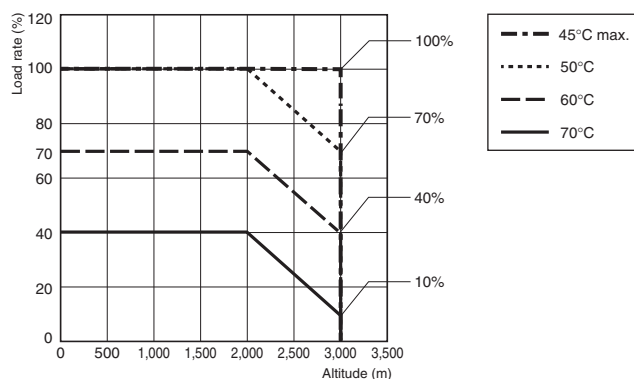
Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

15 W to 150 W (During a DC input)



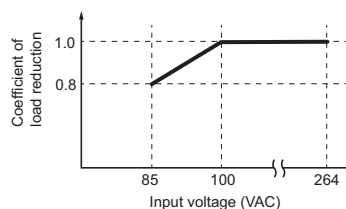
Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

300 W and 600 W



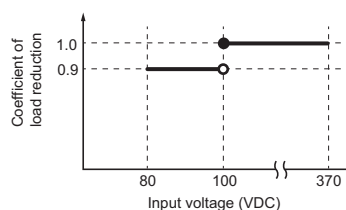
Note: Multiply the load ratio shown in the above output derating curve by the coefficient of load reduction to input voltage.

Coefficient of load reduction to input voltage
AC input (15 W to 600 W)



* 15 W/30 W/50 W/100 W/150 W only when used at ambient temperature 40°C or higher

DC input (15 W to 150 W)

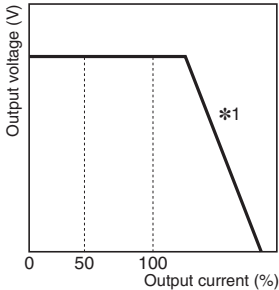


Engineering Data

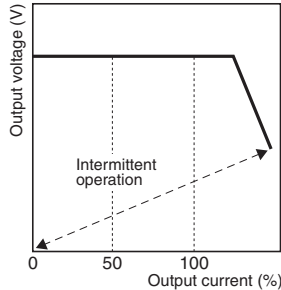
Overload Protection

The load and the Power Supply are automatically protected from overcurrent damage by this function. Overload protection is activated if the output current rises above 105 to 160% of the rated current. When the output current returns within the rated range overload protection is automatically cleared.

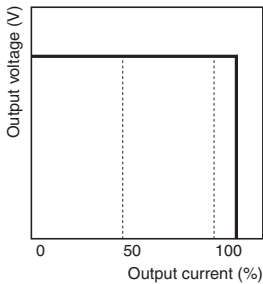
15W/30W/50W/100W/150W



300W



600W



*1. Operation is intermittent in a fixed cycle in short-circuited or overcurrent states.

- Note: 1.** Internal parts may occasionally deteriorate or be damaged if a short-circuited or overcurrent state continues during operation.
- 2.** Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do not use the Power Supply for such applications.

Overvoltage Protection

Consider the possibility of an overvoltage and design the system so that the load will not be subjected to an excessive voltage even if the feedback circuit in the Power Supply fails. If an excessive voltage that is 120% of the rated voltage or more is output, the output voltage is shut OFF. Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.

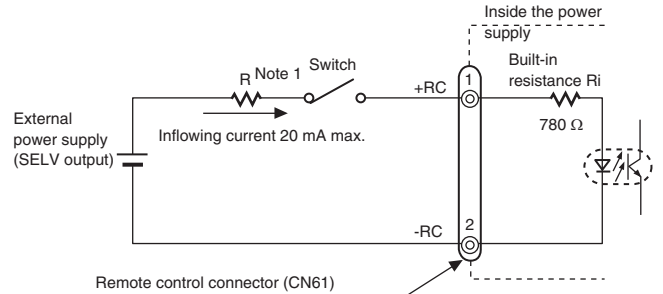
Overheating Protection (300 W and 600 W)

If the internal temperature of the Power Supply rises excessively as a result of fan failure or any other reason, the overheat protection circuit will be triggered to shut OFF the output voltage. To restore operation, turn OFF the input power supply long enough for the Power Supply to cool sufficiently and then turn it ON again.

Remote Control Function (Only Remote control)

This function is to turn ON/OFF the output by applying a voltage to the remote control connector from a DC power Supply (external power supply) other than this Power Supply.

| Voltage between +RC and -RC (V) | Output voltage (VDC) |
|---------------------------------|----------------------|
| 4.5 to 12.5 | ON |
| 0 to 0.5 | OFF |



Usage example of the remote control

Connectors used:

| | CN61 | Applicable connector | Applicable contact |
|---------------------|-----------------------|----------------------|--------------------------------|
| Model | B2B-XH-AM | XHP-2 | SXH-001T-P0.6 or SXH-002T-P0.6 |
| Manufacturer | J.S.T. Mfg. Co., Ltd. | | |

Applicable crimp tool: YC-110R (J.S.T. Mfg. Co., Ltd.) or YRS-110 (J.S.T. Mfg. Co., Ltd.)

- Note: 1.** When the external power supply is 4.5 to 12.5 V, the current limiting resistor R is not required. When it is 12.5 to 24.5 V, insert 1.5 kΩ as the current limiting resistor R.
- 2.** Reverse connection of the connector may cause damage on the internal parts.
- 3.** The +RC and -RC terminals are the secondary circuit of the Power Supply. Use an SELV output power supply for an external power supply. The remote control circuit is insulated from the secondary output of the Power Supply (functional insulation).

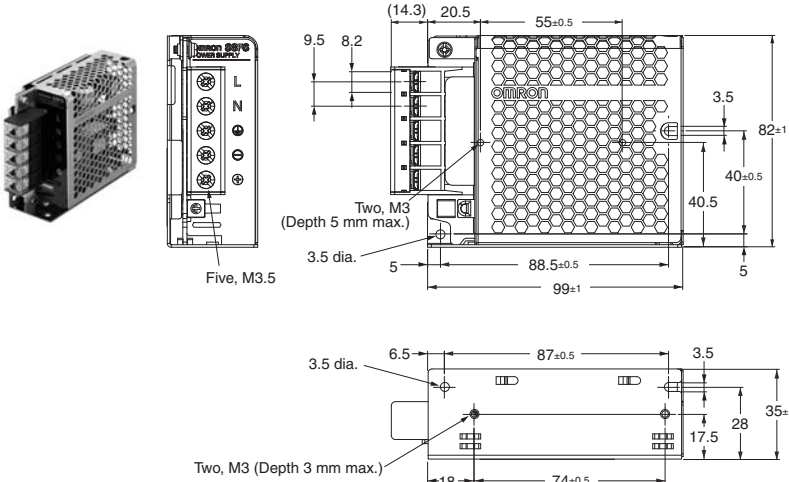
Reference Value

| | Value |
|---------------------------|---|
| Reliability (MTBF) | Single phase model |
| | 15W: 970,000 |
| | 30W: 970,000 |
| | 50W: 880,000 |
| | 100W: 730,000 |
| | 150W: 620,000 |
| | 300W: 200,000 |
| | 600W: 190,000 |
| Definition | MTBF stands for Mean Time Between Failures, which is calculated according to the probability of accidental device failures, and indicates reliability of devices. Therefore, it does not necessarily represent a life of the product. |
| Life expectancy | 10 yrs. Min. |
| Definition | The life expectancy indicates average operating hours under the ambient temperature of 40°C and a load rate of 50%. Normally this is determined by the life expectancy of the built-in aluminum electrolytic capacitor. |

Dimensions

Power Supplies
15 W and 30 W

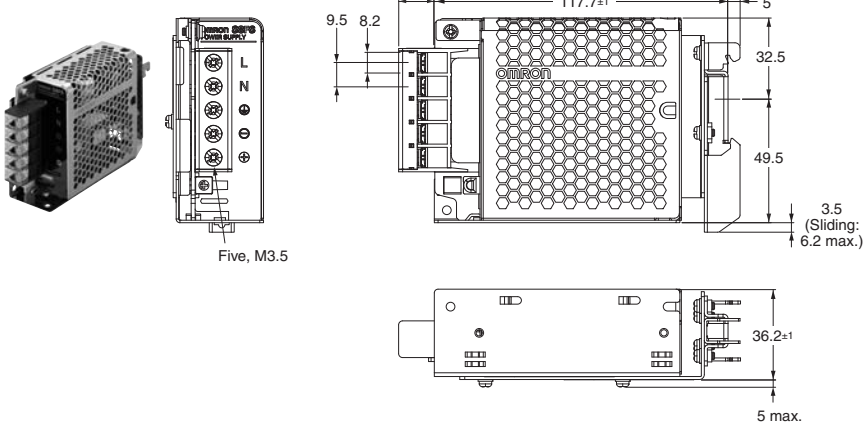
S8FS-G015□□C
S8FS-G030□□C



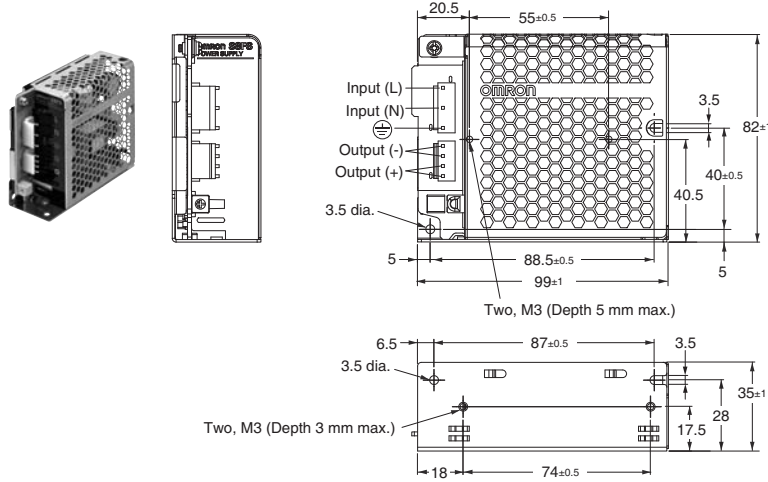
Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | Two, M3 40±0.5 88.5±0.5 | Two, 3.5 dia. 55±0.5 |
| Bottom Mounting | Two, M3 87±0.5 | Two, 3.5 dia. 74±0.5 |

S8FS-G015□□CD
S8FS-G030□□CD



S8FS-G015□□E
S8FS-G030□□E



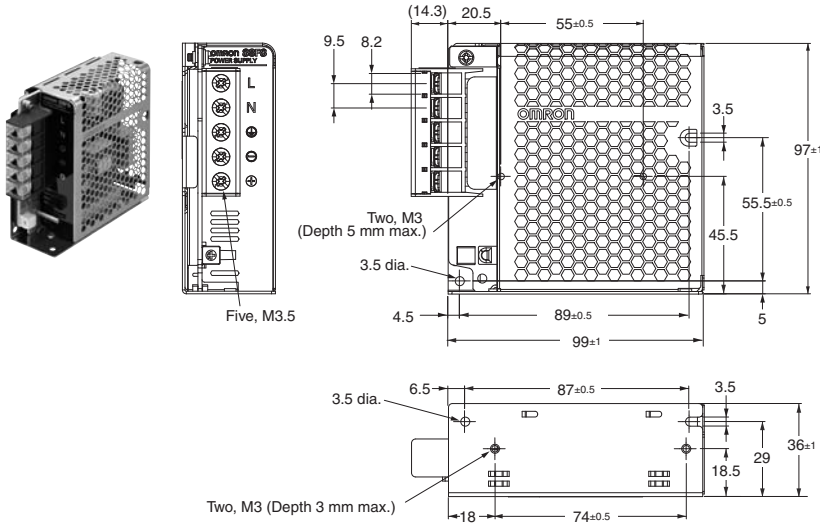
Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | Two, M3 40±0.5 88.5±0.5 | Two, 3.5 dia. 55±0.5 |
| Bottom Mounting | Two, M3 87±0.5 | Two, 3.5 dia. 74±0.5 |

S8FS-G

50W

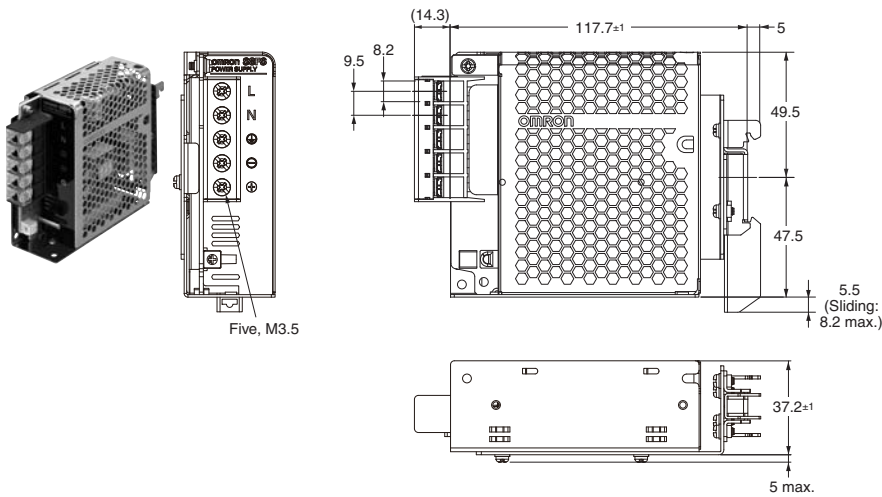
S8FS-G050□□C



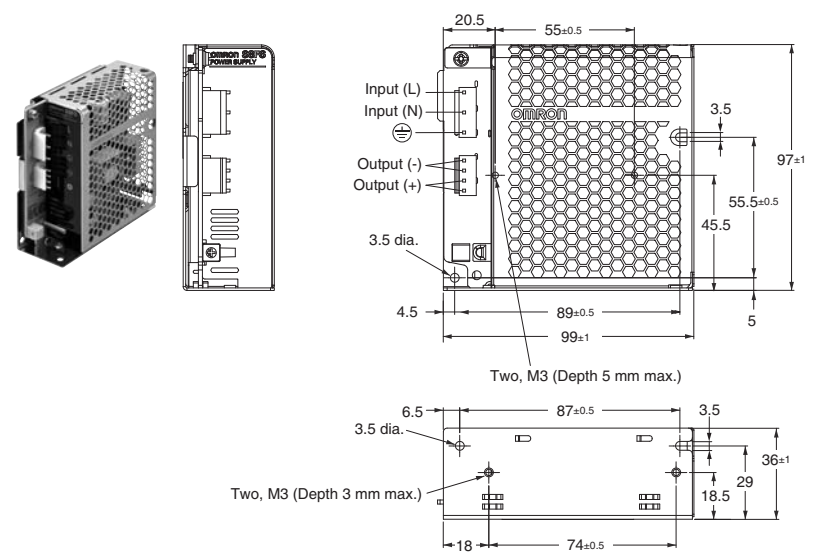
Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | Two, M3 89±0.5 55.5±0.5 | Two, 3.5 dia. 55±0.5 |
| Bottom Mounting | Two, M3 87±0.5 | Two, 3.5 dia. 74±0.5 |

S8FS-G050□□CD



S8FS-G050□□E

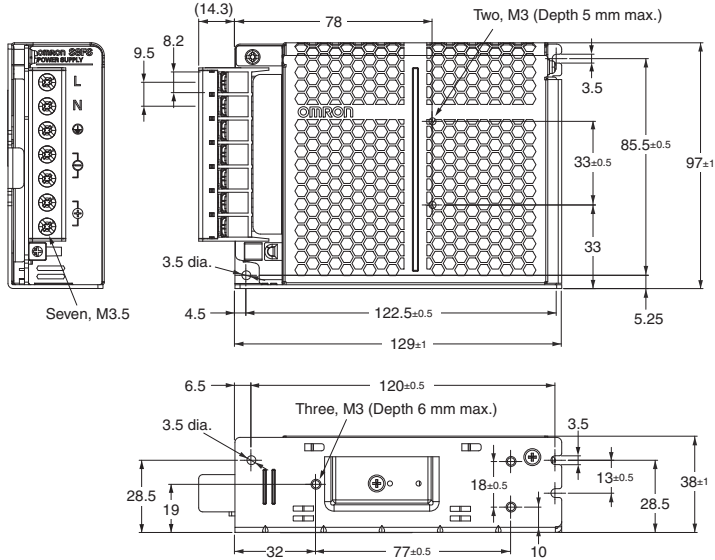


Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | Two, M3 89±0.5 55.5±0.5 | Two, 3.5 dia. 55±0.5 |
| Bottom Mounting | Two, M3 87±0.5 | Two, 3.5 dia. 74±0.5 |

100W

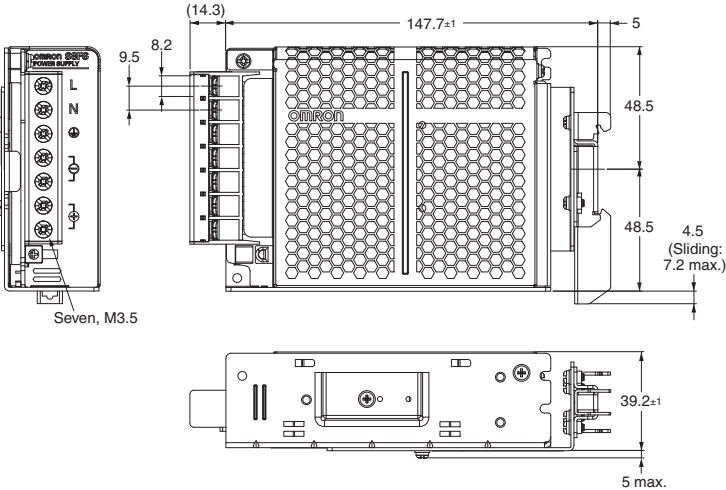
S8FS-G100□□C



Panel mounting holes dimensions

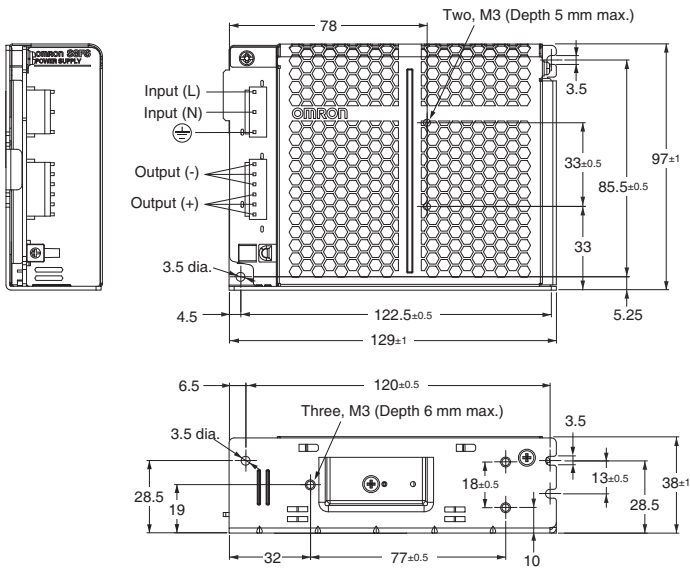
| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | | |
| Bottom Mounting | | |

S8FS-G100□□CD



S8FS-G

S8FS-G100□□E

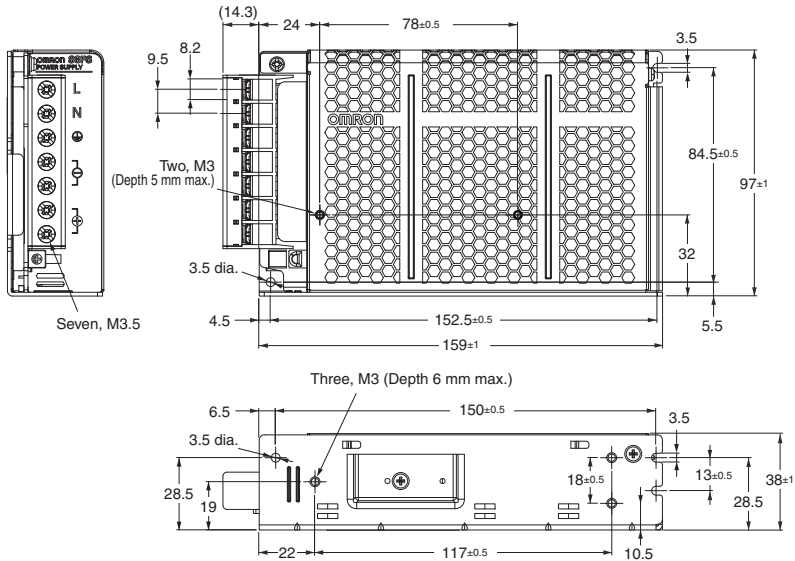


Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|------------------------|--|---|
| Side Mounting | | |
| Bottom Mounting | | |

150W

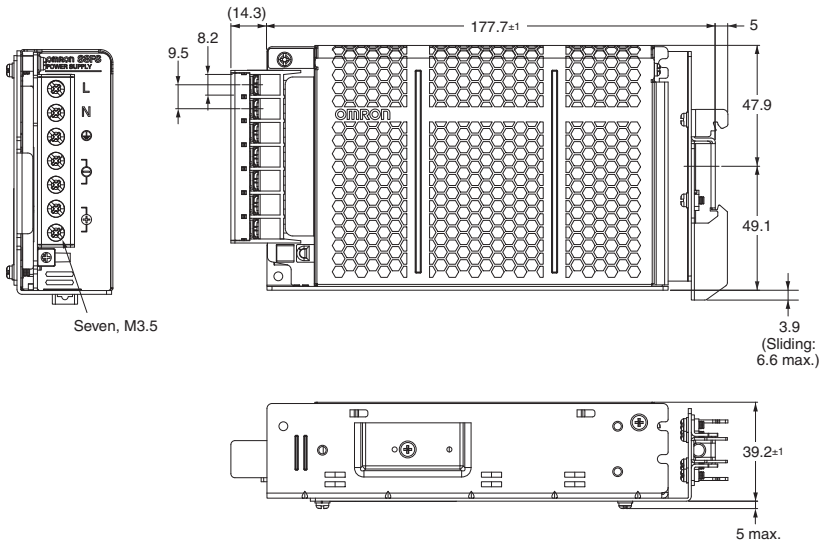
S8FS-G150□□C



Panel mounting holes dimensions

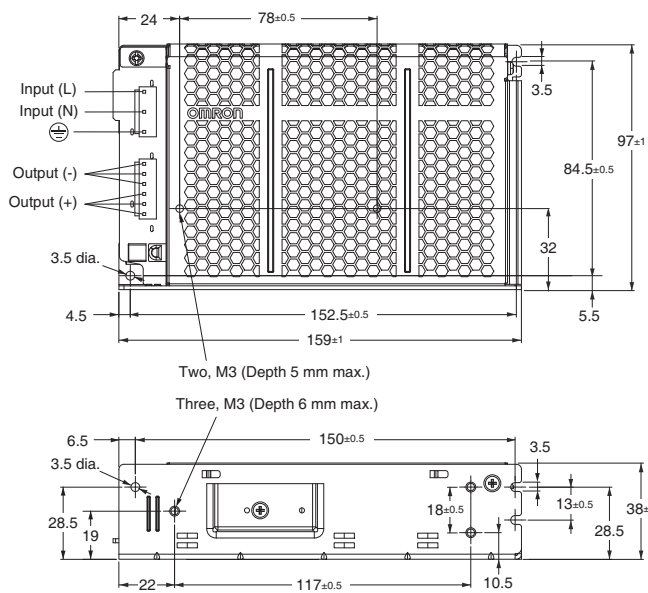
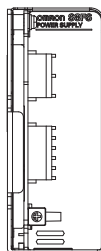
| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|-----------------|--|---|
| Side Mounting | | |
| Bottom Mounting | | |

S8FS-G150□□CD



S8FS-G

S8FS-G150□□E



Two, M3 (Depth 5 mm max.)

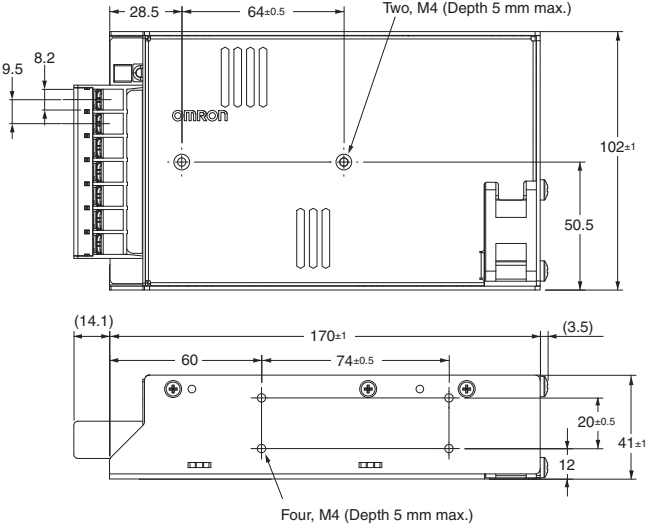
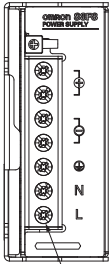
Three, M3 (Depth 6 mm max.)

Panel mounting holes dimensions

| | Using the mounting holes in the Power Supply | Using the screw holes in the Power Supply |
|------------------------|--|---|
| Side Mounting | <p>Two, M3</p> <p>Dimensions: 152.5±0.5 (width), 84.5±0.5 (height)</p> | <p>Two, 3.5 dia.</p> <p>Dimension: 78±0.5 (width)</p> |
| Bottom Mounting | <p>Three, M3</p> <p>Dimensions: 150±0.5 (width), 13±0.5 (height)</p> | <p>Three, 3.5 dia.</p> <p>Dimensions: 8.5±0.5 (left offset), 117±0.5 (width), 18±0.5 (right offset)</p> |

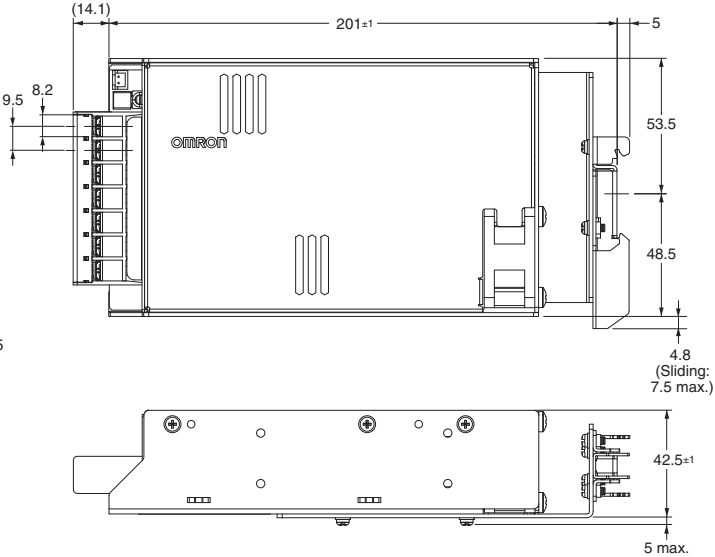
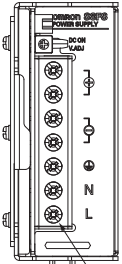
300W

S8FS-G300□□C



| Panel mounting holes dimensions | |
|---|------------------------------------|
| Using the screw holes in the Power Supply | |
| Side Mounting | Two, 4.5 dia. 64±0.5 |
| Bottom Mounting | Four, 4.5 dia. 74±0.5 20±0.5 |

S8FS-G300□□CD

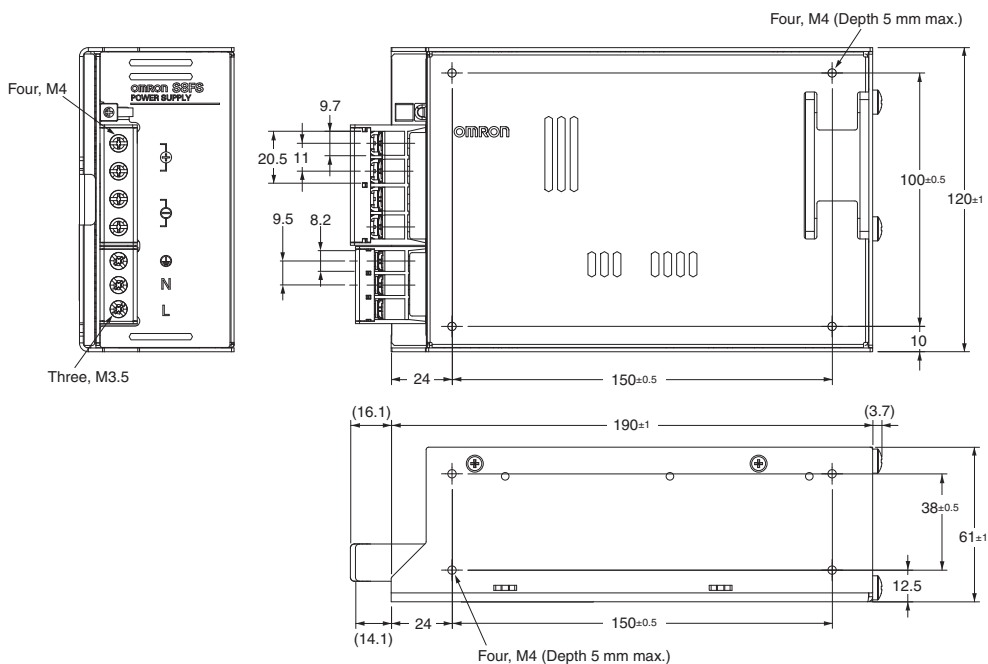


Note: Use a Front-mounting Bracket (S82Y-FSG-30F) when the DIN Rail is not strong enough for your usage environment.

S8FS-G

600W

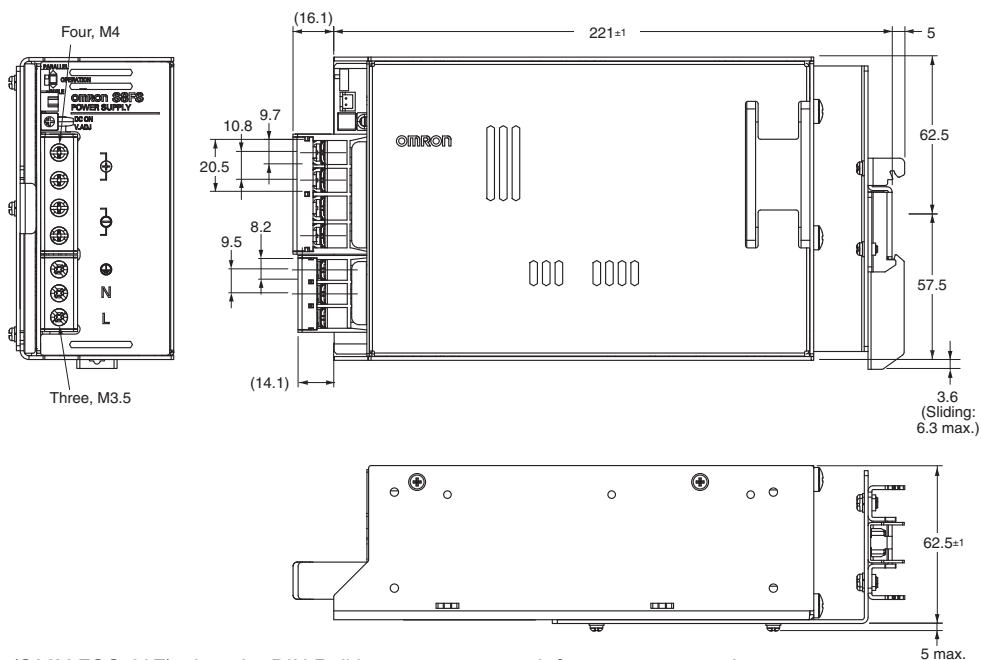
S8FS-G600□□C



Panel mounting holes dimensions

| | Using the screw holes in the Power Supply |
|------------------------|---|
| Side Mounting | <p>Four, 4.5 dia. 150±0.5 100±0.5</p> |
| Bottom Mounting | <p>Four, 4.5 dia. 150±0.5 38±0.5</p> |

S8FS-G600□□CD



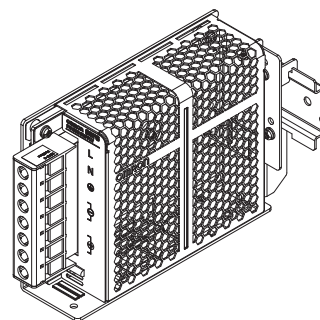
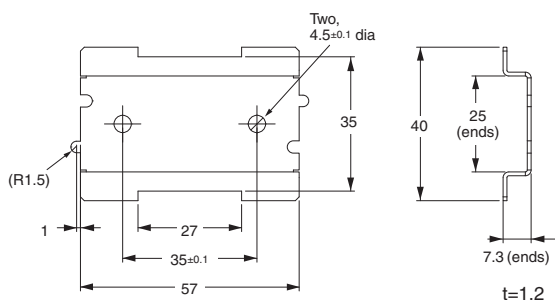
Note: Use a Front-mounting Bracket (S82Y-FSG-60F) when the DIN Rail is not strong enough for your usage environment.

Mounting Brackets (Order Separately)

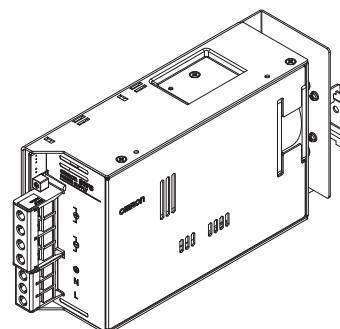
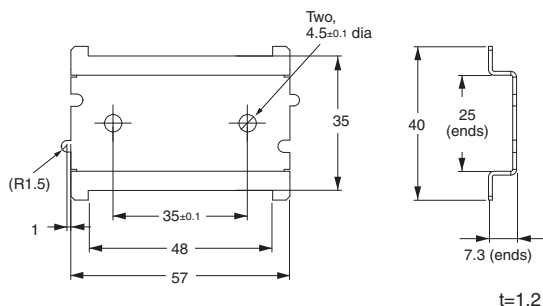
Use the Front-mounting Brackets together with DIN Rail-mounting Power Supplies (S8FS-G□□□□□CD). Purchase a DIN Rail mounting bracket separately to mount direct mounting models (S8FS-G□□□□□C) on a DIN Rail.

| Power rating | Mounting direction | Model |
|--|--------------------|--------------|
| 15 W, 30 W, 50 W 100 W, 150 W and 300 W | Front-mounting | S82Y-FSG-30F |
| 600 W | Front-mounting | S82Y-FSG-60F |

S82Y-FSG-30F



S82Y-FSG-60F



Note: Replacement brackets from the S8JX-N, S8JX-P, and S8VM series are available. Use these brackets for a front mounting configuration using direct mounting models. Refer to the data sheet (Cat. No.: T216-E1, T217-E1, and T218-E1) for more information.

Terminal cover (Order Separately)

| Power rating | Applicable models | Terminal Cover model number |
|--------------|-------------------|-------------------------------|
| 15 W | S8FS-G015□□□□ | S82Y-FSG-C5P |
| 30 W | S8FS-G030□□□□ | |
| 50 W | S8FS-G050□□□□ | |
| 100 W | S8FS-G100□□□□ | S82Y-FSG-C7P |
| 150 W | S8FS-G150□□□□ | |
| 300 W | S8FS-G300□□□□ | S82Y-FSG-C7P-L (Input Output) |
| 600 W | S8FS-G600□□□□ | |

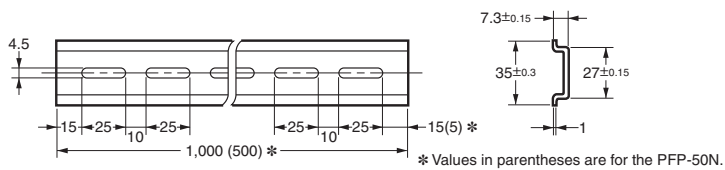
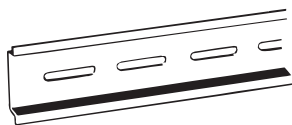
Note: A Terminal Block Cover is provided with the Power Supply as a standard accessory. You can purchase another one if your Cover is damaged or lost.

DIN Rail (Order Separately)

(Unit: mm)

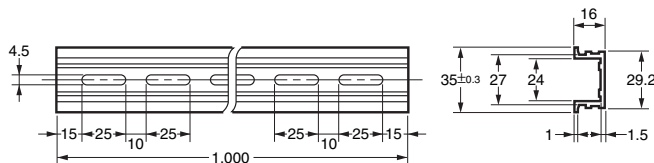
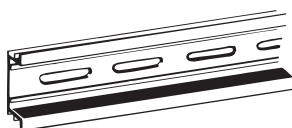
Mounting Rail (Material: Aluminum)

PFP-100N
PFP-50N



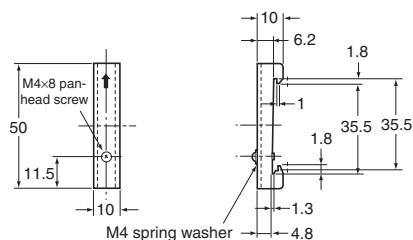
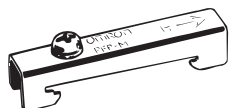
Mounting Rail (Material: Aluminum)

PFP-100N2



End Plate

PFP-M




Note: If there is a possibility that the Unit will be subject to vibration or shock, use a steel DIN Rail. Otherwise, metallic filings may result from aluminum abrasion.





Safety Precautions

Refer to Safety Precautions for All Power Supplies.

Warning Indications

| | |
|--|---|
|  CAUTION | Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage. |
| Precautions for Safe Use | Supplementary comments on what to do or avoid doing, to use the product safely. |
| Precautions for Correct Use | Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effect on product performance. |

Meaning of Product Safety Symbols

| | |
|---|--|
|  | Used to warn of the risk of electric shock under specific conditions. |
|  | Used to warn of the risk of minor injury caused by high temperatures. |
|  | Use to indicate prohibition when there is a risk of minor injury from electrical shock or other source if the product is disassembled. |
|  | Used for general mandatory action precautions for which there is no specified symbol. |

CAUTION

Minor electric shock, fire, or Product failure may occasionally occur. Do not disassemble, modify, or repair the Product or touch the interior of the Product.



Minor burns may occasionally occur. Do not touch the Product while power is being supplied or immediately after power is turned OFF.



Fire may occasionally occur. Tighten terminal screws to the specified torque.

M3.5: 0.74 to 1.13N·m
M4: 1.08 to 1.32N·m



Minor injury due to electric shock may occasionally occur. Do not touch the terminals while power is being supplied.



Minor electric shock, fire, or Product failure may occasionally occur. Do not allow any pieces of metal or conductors or any clippings or cuttings resulting from installation work to enter the Product.



Precautions for Safe Use

Ambient Operating and Storage Environments

- Store the Power Supply at a temperature of -25 to 75°C and a humidity of 90% max.
- Make sure to use the Power Supply within the derating curve, as this may damage the product. Ambient temperature, input voltage and altitude affect the derating.
- Use the Power Supply at a humidity of 90% max.
- Do not use locations where liquids, foreign matter, or corrosive gases may enter the interior of the Power supplies.

Installation Environment

- Do not use the Power Supply in locations subject to shocks or vibrations. In particular, install the Power Supply as far away as possible from contractors or other devices that are a vibration source.
- Install the Power Supply well away from any sources of strong, high-frequency noise and surge.

Mounting

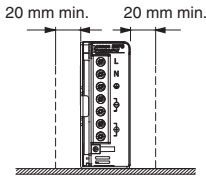
- Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Power Supply. Be sure to allow convection in the atmosphere around devices when mounting. Do not use in locations where the ambient temperature exceeds the range of the derating curve. The S8FS-G015□□□ to S8FS-G150□□□ are cooled by natural convection. Mount them so that air convection will occur around them. The S8FS-G300□□□ and S8FS-G600□□□ are cooled by forced airflow. Do not allow the ventilation holes to be blocked. The effectiveness of cooling would be reduced.
- When cutting out holes for mounting, make sure that cuttings do not enter the interior of the Power supplies.
- The internal parts may occasionally deteriorate and be broken due to adverse heat radiation. Do not loosen the screws on the Power Supply.
- If you mount the Power Supply with the holes provided on the chassis, do not exceed the depth given in the dimensional diagrams. Use the following tightening torques.
M3 screws: 0.48 to 0.59 N·m
M4 screws: 1.08 to 1.32 N·m

Mounting

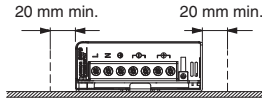
<Standard mounting>

S8FS-G015□□□ to 150□□□

Bottom mounting

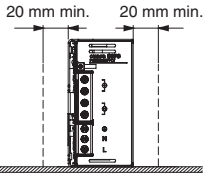


Side (horizontal orientation) mounting

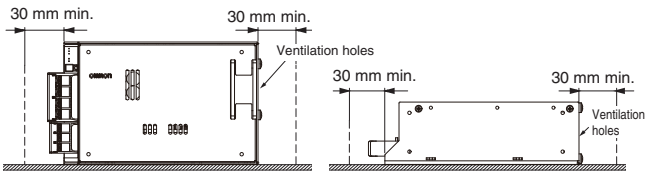
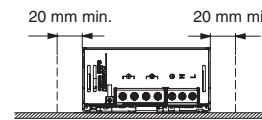


S8FS-G300□□□ and S8FS-G600□□□

Bottom mounting

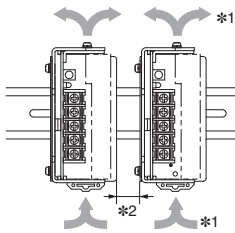


Side (horizontal orientation) mounting



Note: Use a metal plate as the mounting surface.

DIN rail mounting

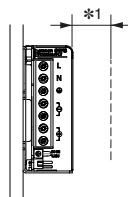


*1. Convection of air.
*2. 20 mm min.

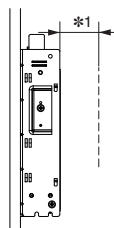
<Other mounting types> *2

S8FS-G015□□□ to 150□□□

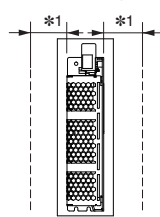
Side (vertical orientation) mounting



Side (upward) mounting



Bottom (upward) mounting

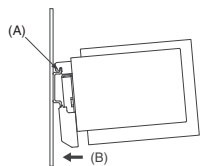


*1. 20 mm min.

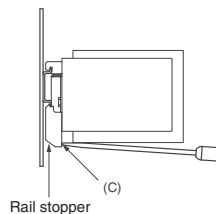
*2. Applicable to products produced from May 2018

<DIN Rail Mounting>

To mount the Power Supply to a DIN Rail, hook portion (A) of the Power Supply onto the DIN Rail and press the Power Supply in direction (B) until you hear it lock into place.



To dismount the Block, pull down portion (C) with a flat-blade screwdriver and pull out the Block.



Wiring

- Connect the ground completely. A protective earthing terminal stipulated in safety standards is used. Electric shock or malfunction may occur if the ground is not connected completely.
- Minor fire may possibly occur. Ensure that input and output terminals are wired correctly.
- Do not apply more than 150-N force to the terminal block when tightening it.
- Be sure to remove the sheet covering the Power Supply for machining before power-ON so that it does not interfere with heat dissipation.
- Use the following material for the wires to be connected to the S8FS-G to prevent smoking or ignition caused by abnormal loads.

Terminals and Wiring (Screw terminal block type)

| Terminals | Model | Recommendes Wire Gauges |
|---------------------------|------------------------|-------------------------|
| Input | S8FS-G015□□□ | AWG12-22 |
| | S8FS-G030□□□ to 100□□□ | AWG12-20 |
| | S8FS-G150□□□ to 600□□□ | AWG12-16 |
| Output | S8FS-G01512□ to 01524□ | AWG12-22 |
| | S8FS-G03024□ | AWG12-20 |
| | S8FS-G01505□ | |
| | S8FS-G03012□, 03015□ | |
| | S8FS-G05015□, 05024□ | |
| | S8FS-G15048□ | AWG12-18 |
| | S8FS-G05012□ | |
| | S8FS-G10024□ | |
| | S8FS-G03005□ | AWG12-16 |
| | S8FS-G10015□ | |
| | S8FS-G15024□ | |
| | S8FS-G30048□ | |
| | S8FS-G05005□ | AWG12-14 |
| | S8FS-G10012□ | |
| | S8FS-G15015□ | |
| | S8FS-G10005□ | AWG12 |
| S8FS-G15005□, 15012□ | | |
| S8FS-G30012□ to 30024□ | | |
| S8FS-G60015□ to 60048□ | AWG10-12 | |
| S8FS-G60012□ | AWG10 | |
| Protective earth terminal | S8FS-G015□□□ to 600□□□ | AWG12-14 |

Note: The current capacity per output terminal is given in the following table.

S8FS-G015□□□ to S8FS-G300□□□: 20 A

S8FS-G600□□□: 30 A

Use two terminals together if the current flow is higher than the rated terminal current.

Terminals and Wiring (Connector type)

| Terminals | Model | Recommendes Wire Gauges |
|-----------|----------------------------|-------------------------|
| Input | S8FS-G01524□□E to 15024□□E | AWG18 |
| Output | S8FS-G01524□□E to 15024□□E | AWG18 |

Note: 1. The current capacity per output terminal is 5 A.

Use two or more terminals together if the current flow is higher than the rated terminal current.

2. Do not insert and remove any connector more than 20 times.

3. Refer to Input and Output Connectors on page 15 for the model numbers of the input and output connectors.

Overcurrent Protection

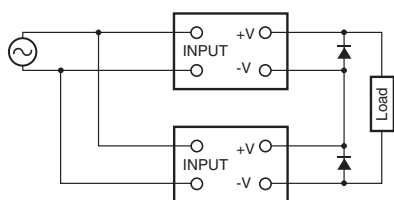
- Internal parts may possibly deteriorate or be damaged if a short-circuited, overload, or boost load state continues during operation.
- Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do not use the Power Supply for such applications.

Output Voltage Adjuster (V. ADJ)

- The output voltage adjuster (V. ADJ) may possibly be damaged if it is turned with unnecessary force. Do not turn the adjuster with excessive force.
- After completing output voltage adjustment, be sure that the output capacity or output current does not exceed the rated output capacity or rated output current.

Series Operation

Two Power Supplies can be connected in series operation.



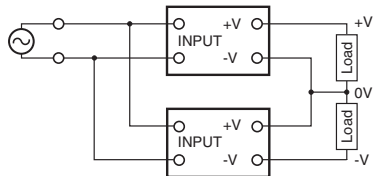
Note: 1. The diode is connected as shown in the figure. If the load is short-circuited, a reverse voltage will be generated inside the Power Supply. If this occurs the Power Supply may possibly deteriorate or be damaged. Always connect a diode as shown in the figure. Select a diode having the following ratings.

| Type | Schottky Barrier diode |
|-----------------------------------|---|
| Dielectric strength (V_{RRM}) | Twice the output voltage or above |
| Forward current (I_F) | Twice the rated output current or above |

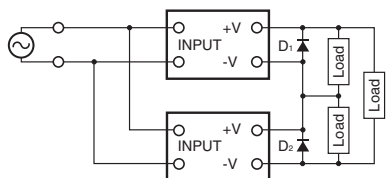
2. Although Power Supply having different specifications can be connected in series, the current flowing through connected in series, the current flowing through the load must not exceed the smaller rated output current.

<Making Positive/Negative Outputs>

- The outputs are floating outputs (i.e., the primary circuits and secondary circuits are separated). You can therefore make positive and negative outputs by using two Power Supplies. If positive and negative outputs are used, connect Power Supplies of the same series as in the following figure. Combinations with different output capacities or output voltages can be made. However, use the lower of the two rated output currents as the current to the loads.



- Depending on the model, internal circuits may be damaged due to startup failure when the power is turned ON if loads such as a servomotor or operational amplifier may operate in series. Therefore, connect bypass diodes (D1, D2) as shown in the following figure. If the list of models that support series connection of outputs says that an external diode is not required, an external diode is also not required for positive/negative outputs.

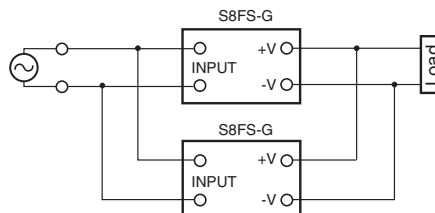


- Use the following information as a guide to the diode type, dielectric strength, and current.

| Type | Schottky Barrier diode |
|-----------------------------------|---|
| Dielectric strength (V_{RRM}) | Twice the output voltage or above |
| Forward current (I_F) | Twice the rated output current or above |

Parallel Operation

Parallel operation is used when the output current from one Power Supply is insufficient for the load. Power Supplies are connected in parallel to increase the output current.



Power Supplies without the Parallel Operation Option

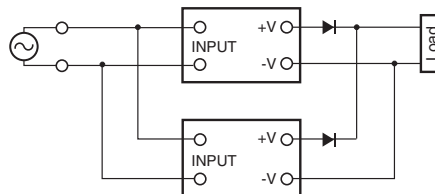
Parallel operation is not possible.

S8FS-G60024□-W□ (Models with the Parallel Operation Option)

Up to five Power Supplies can be connected in parallel operation. You must meet the following conditions to use parallel operation.

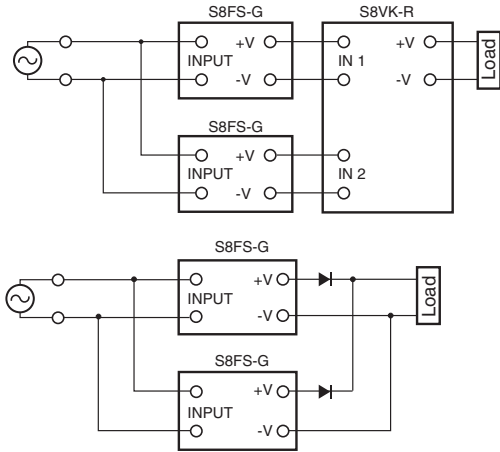
- The internal parts may occasionally deteriorate or be damaged. To operate in parallel, set the switch to the "PARALLEL" side.
- For parallel operation, always use Power Supplies with the same model number.
- Use the output voltage adjusters (V. ADJ) to adjust the difference in the output voltages to 50 mV or less between Power Supplies that are used in parallel operation.
- The length and thickness of each wire connected to the load must be the same so that there is no difference in the voltage drop value between the load and the output terminals of each Power Supply.
- Drastic fluctuations in the load (including fluctuations that occur when starting and starting the load) may reduce the output voltage. If fluctuations in the output voltage that result from drastic fluctuations in the load would be a problem, connect external diodes as shown in the following diagram.
- Use the following information as a guide to the diode type, dielectric strength, and current.

| Type | Schottky Barrier diode |
|-----------------------------------|---|
| Dielectric strength (V_{RRM}) | Twice the output voltage or above |
| Forward current (I_F) | Twice the rated output current or above |



Backup Operation

Backup operation is possible if you use two Power Supplies of the same model. Even if one Power Supply fails, operation can be continued with the other Power Supply. Make sure that the maximum load does not exceed the capacity of one Power Supply. Connect the S8VK-R or external diodes as shown in the following figure for backup operation. Refer to the S8VK-R datasheet (Cat. No.: T059) for information on using the S8VK-R.



Use the following information as a guide to the diode type, dielectric strength, and current.

| Type | Schottky Barrier diode |
|-----------------------------------|---|
| Dielectric strength (V_{RRM}) | Twice the output voltage or above |
| Forward current (I_F) | Twice the rated output current or above |

In Case There Is No Output Voltage

There is a possibility that overload protection, overvoltage protection, or overheating protection are functioning. The internal protection may operate if a large amount of surge voltage, such as a lightning inrush, is applied to the input. In addition, other possible causes for some models include stoppage of the built-in fan and the remote control function (OFF). Check the following five points. If there is still no output voltage, contact your OMRON representative.

- Checking Overload Protection:
Remove the load wires and check whether the load is in an overload state or is short-circuited.
- Checking Overvoltage or Internal Protection:
Turn the power supply OFF, leave it OFF for at least three minutes, and then turn it ON again to see if this clears the condition.
- Checking Overheating Protection (300 W/600 W):
Turn OFF the input power supply long enough for the Power Supply to cool sufficiently and then turn it ON again.
- Checking for Built-in Fan Stoppage (300 W/600 W):
Check whether or not the built-in fan has stopped.
- Confirming Remote Control Operation (Power Supplies with Remote Control):
Check whether or not the +RC and -RC terminals are open. Connect the terminals as specified.

Charging a Battery

If you connect a battery as the load, install overcurrent control and overvoltage protection circuits.

Built-in Fan Replacement

<Only S8FS-G300□□□/600□□□>
The built-in fan cannot be replaced.

Audible Noise at Power ON

<Only S8FS-G300□□□/600□□□>
A harmonic current suppression circuit is built into the Power Supply. This circuit can create noise when the input is turned ON, but it will last only until the internal circuits stabilize and does not indicate any problem in the Power Supply.

Period and Terms of Warranty

Warranty Period

The Power Supply warranty is valid for a period of three years from the date of shipment from the factory.

Terms of Warranty

The warranty is valid only for the following operating conditions.

1. Average ambient operating temperature of the Power Supply: 40°C max. (See note.)
2. Average load rate of 80% max. (See note.)
3. Mounting method: Standard mounting
4. Rated input voltage

Note: The maximum ratings must be within the derating curve.

If the Power Supply fails for reasons attributable to OMRON within the above warranty period, OMRON will repair or replace the faulty part of the Power Supply at the place of purchase or the place where the Power Supply delivered without charge.

This warranty does not cover the following types of failures.

- (1) Failures that result from handling or operation of the Power Supply under conditions or in environments that are not given in this document and not given in any other specifications exchanged between OMRON and the customer
 - (2) Failures that originate in causes other than the delivered product itself
 - (3) Failures caused by disassembly, modification, or repair of the Power Supply by anyone other than OMRON
 - (4) Failures caused by applications or uses for which the Power Supply was not originally intended
 - (5) Failures caused by factors that could not be anticipated with the scientific or technical knowledge available when the Power Supply was shipped
 - (6) Failures caused by other causes for which OMRON is not responsible, such as natural disasters and other acts of God
- This warranty is limited to the individual Power Supply that was delivered and does not cover any secondary, subsequent, or related damages.

Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance

The recommended replacement period for preventive maintenance is greatly influenced by the application environment of the Power Supply. As a guideline, the recommended replacement period is 7 to 10 years.*

To prevent failures or accidents that can be caused by using a Power Supply beyond its service life, we recommend that you replace the Power Supply as early as possible within the recommended replacement period.

However, bear in mind that the recommended replacement period is for reference only and does not guarantee the life of the Power Supply.

Many electronic components are used in the Power Supply and the Power Supply depends on the correct operation of these components to achieve the original Power Supply functions and performance.

However, the influence of the ambient temperature on aluminum electrolytic capacitors is large, and the service life is reduced by half for each 10°C rise in temperature (Arrhenius law).

When the capacity reduction life of the electrolytic capacitor is reached, the Power Supply failures or accidents may occur.

We therefore recommend that you replace the Power Supply periodically to minimize product failures or accidents in advance.

* The recommended replacement period applies under the following conditions: rated input voltage, load rate of 50% max., ambient temperature of 40°C max., and the standard mounting method.

This Power Supply model is designed with a service life of 10 years minimum under the above conditions.

Terms and Conditions Agreement

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

Limitation on Liability: Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

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Note: Do not use this document to operate the Unit.

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