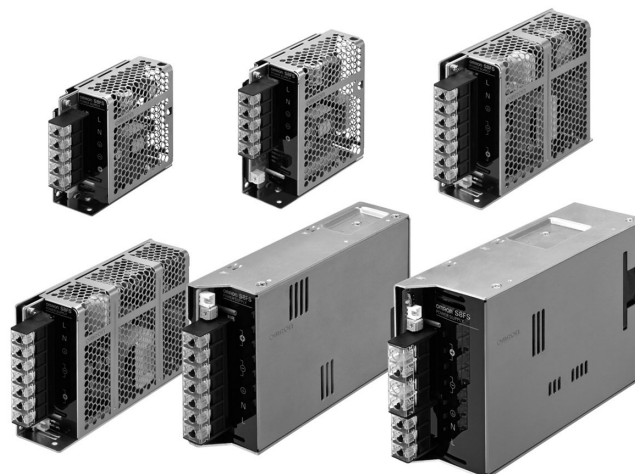


# Switch Mode Power Supply

## S8FS-G (15/30/50/100/150/300/600-W Models)

### 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 50178)  
EMI: Class B (EN 61204-3)  
No need for control circuit transformers for which the Machinery Directive is specified. (IEC 61558-2-16)  
\* Refer to pages 4 to 10 for certified models.
- Greater Usability  
The Terminal Block Cover prevents screws from dropping out and the Front Cover prevents ingress of foreign matter.



Refer to *Safety Precautions for All Power Supplies* and *Safety Precautions* on page 28.

## Lineup

Output voltage	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

#### 1. Power Ratings

015: 15 W  
030: 30 W  
050: 50 W  
100: 100 W  
150: 150 W  
300: 300 W  
600: 600 W

#### 2. Output voltage

05: 5 V  
12: 12 V  
15: 15 V  
24: 24 V  
48: 48 V

#### 3. Configuration

C: With cover/Direct mounting  
CD: With cover/DIN Rail mounting

#### 4. Option (1)

None: Screw terminal block  
E: Connectors \*1

#### 5. Option (2) \*2

None: None  
W: Parallel operation

#### 6. Option (3) \*3

None: None  
R: Remote control

#### 7. Option (4) \*4

None: None  
H: Extended hold time

\*1. Applicable only for 150 W or less and 24 V.

\*2. Applicable only for 600 W and 24 V.

\*3. Applicable only for 100 W or more and 24 V.

\*4. Applicable only for 300 W or more and 24 V.

# S8FS-G

## Ordering Information

### List of Models

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

#### With Cover/Direct Mounting

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
15 W	100 to 240 VAC	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-G15048C		
	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-G30048C		
	12 V	50 A	S8FS-G60012C		
	15 V	40 A	S8FS-G60015C		
	24 V	27 A	S8FS-G60024C		
	48 V	13 A	S8FS-G60048C		

**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 26.

\*1. The output electric power is 40 W.

\*2. The output electric power is 80 W.

\*3. The output electric power is 105 W.

#### 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	24 V	14 A	Yes	S8FS-G30024C-H
600 W			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	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

## With Cover/DIN Rail Mounting

Power ratings	Input voltage	Output voltage (VDC)	Output current	Built-in fan	Model
15 W	100 to 240 VAC	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
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		
	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		
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		
	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.

## 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	24 V	14 A	Yes	S8FS-G30024CD-H
600 W			27 A		S8FS-G60024CD-H

## Specifications

Item	Power rating		15 W			
	Output voltage		5 V	12 V	15 V	24 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC			
	Frequency *		50/60 Hz (47 to 450 Hz)			
	Current *	100 VAC input	0.32 A typ.			
		200 VAC input	0.2 A typ.			
	Power factor		---			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	40 mVp-p max.	40 mVp-p max.	40 mVp-p max.	60 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
	Startup time *	100 VAC input	1,000 ms max.			
		200 VAC input	1,000 ms max.			
	Hold time *	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 *		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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
	MTBF		135,000 hrs min.			
Life expectancy *	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 18.			
	Weight		250 g			
	Cooling fan		No			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with connector option) UL 60950-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.60950-1 (excluding models with connector option) EN 50178 (OVCIII [≤ 2,000 m], OVCII [> 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCII [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
	SEMI		Conforms to F47-0706 (200 VAC input)			

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



Item	Power rating		30 W			
	Output voltage		5 V	12 V	15 V	24 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC			
	Frequency *		50/60 Hz (47 to 450 Hz)			
	Current *	100 VAC input	0.72 A typ.			
		200 VAC input	0.43 A typ.			
	Power factor		---			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	50 mVp-p max.	60 mVp-p max.	50 mVp-p max.	60 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
	Startup time *	100 VAC input	1,000 ms max.			
		200 VAC input	1,000 ms max.			
	Hold time *	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 *		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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 18.			
	Weight		250 g			
	Cooling fan		No			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with connector option) UL 60950-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.60950-1 (excluding models with connector option) EN 50178 (OVCIII [≤ 2,000 m], OVCII [> 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCII [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
	SEMI		Conforms to F47-0706 (200 VAC input)			

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

Item	Power rating		50 W			
	Output voltage		5 V	12 V	15 V	24 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC			
	Frequency *		50/60 Hz (47 to 450 Hz)			
	Current *	100 VAC input	1.1 A typ.			
		200 VAC input	0.62 A typ.			
	Power factor		---			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	40 mVp-p max.	40 mVp-p max.	40 mVp-p max.	60 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
	Startup time *	100 VAC input	1,000 ms max.			
		200 VAC input	1,000 ms max.			
	Hold time *	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 *		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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
Reliability	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (WxHxD)		Refer to <i>Dimensions</i> on page 19.			
	Weight		300 g			
	Cooling fan		No			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with connector option) UL 60950-1 (Recognition, OVCII [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with connector option) CSA C22.2 No.60950-1 (excluding models with connector option) EN 50178 (OVCI [≤ 2,000 m], OVCI [ > 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
	SEMI		Conforms to F47-0706 (200 VAC input)			

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

Item	Power rating		100 W			
	Output voltage		5 V	12 V	15 V	24 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC			
	Frequency *		50/60 Hz (47 to 450 Hz)			
	Current *	100 VAC input	2.1 A typ.			
		200 VAC input	1.2 A typ.			
	Power factor		---			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	70 mVp-p max.	90 mVp-p max.	100 mVp-p max.	80 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
		Startup time *		1,000 ms max.		
	Hold time *	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 *		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)				
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				
		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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
Reliability	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 20.			
	Weight		400 g			
	Cooling fan		No			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with connector option or remote control option) UL 508 (Recognition, models with remote control option) UL 60950-1 (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.60950-1 (excluding models with connector option or remote control option) EN 50178 (OVCIII [≤ 2,000 m], OVCI [ > 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
	SEMI		Conforms to F47-0706 (200 VAC input)			

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

Item	Power rating		150 W				
	Output voltage		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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC				
	Frequency *		50 /60 Hz (47 to 450 Hz)				
	Current *	100 VAC input	3 A typ.				
		200 VAC input	1.8 A typ.				
	Power factor		---				
	Leakage current *	100 VAC input	0.5 mA max.				
		200 VAC input	1 mA max.				
Inrush current * (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 *		-10% to 15% (with V.ADJ)				
	Ripple & Noise voltage *	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 *		0.5% max.				
	Load variation influence *		1.0% max.				
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.				
		100 VAC input	1,000 ms max.				
	Startup time *	200 VAC input	1,000 ms max.				
Hold time *	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 *		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)				
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					
		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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions				
Reliability	MTBF		135,000 hrs min.				
	Life expectancy *		10 years min.				
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 22.				
	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 *	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		UL 508 (Listing, excluding models with connector option or remote control option) UL 508 (Recognition, models with remote control option) UL 60950-1 (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.60950-1 (excluding models with connector option or remote control option) EN 50178 (OVCIII ≤ 2,000 m), OVCIII > 2,000 m and ≤ 3,000 m), Pol2) EN 60950-1 (OVCIII ≤ 3,000 m), Pol2) Conforms to EN/IEC 61558-2-16.				
	Marine Standards		No				
SEMI		Conforms to F47-0706 (200 VAC input)					

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

Item	Power rating		300 W			
	Output voltage		12 V	15 V	24 V	48 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 370 VDC			
	Frequency *		50/60 Hz (47 to 63 Hz)			
	Current *	100 VAC input	4.2 A typ.			
		200 VAC input	2.1 A typ.			
	Power factor		0.9 min.			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	140 mVp-p max.	270 mVp-p max.	150 mVp-p max.	330 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
	Startup time *	100 VAC input	1,000 ms max.			
		200 VAC input	1,000 ms max.			
	Hold time *	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 *		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		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.) (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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
Reliability	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 24			
	Weight		700 g			
	Cooling fan		Yes			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with remote control option) UL 508 (Recognition, models with remote control option) UL 60950-1 (Recognition, OVCI [≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with remote control option) CSA C22.2 No.60950-1 (excluding models with remote control option) EN 50178 (OVCI [≤ 2,000 m], OVCI [ > 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCI [≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
SEMI		Conforms to F47-0706 (200 VAC input)				

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

Item	Power rating		600 W			
	Output voltage		12 V	15 V	24 V	48 V
Efficiency *	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 *		Single phase, 85 to 264 VAC, 120 to 350 VDC			
	Frequency *		50 /60 Hz(47 to 63 Hz)			
	Current *	100 VAC input	7.7 A typ.			
		200 VAC input	3.8 A typ.			
	Power factor		0.9 min.			
	Leakage current *	100 VAC input	0.5 mA max.			
		200 VAC input	1 mA max.			
Inrush current * (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 *		-10% to 15% (with V.ADJ)			
	Ripple & Noise voltage *	100 to 240 VAC input	170 mVp-p max.	170 mVp-p max.	280 mVp-p max.	340 mVp-p max.
	Input variation influence *		0.5% max.			
	Load variation influence *		1.0% max.			
	Temperature variation influence	100 to 240 VAC input	0.05%/°C max.			
	Startup time *	100 VAC input	1,000 ms max.			
		200 VAC input	1,000 ms max.			
	Hold time *	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 *		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)			
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 <sup>2</sup> , 3 times each in ±X, ±Y, ±Z directions			
Reliability	MTBF		135,000 hrs min.			
	Life expectancy *		10 years min.			
Construction	Dimensions (W×H×D)		Refer to <i>Dimensions</i> on page 25.			
	Weight		1,050 g			
	Cooling fan		Yes			
	Degree of protection		---			
Standards	Harmonic current emissions		Conforms to EN 61000-3-2			
	EMI *	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		UL 508 (Listing, excluding models with remote control option) UL 508 (Recognition, models with remote control option) UL 60950-1 (Recognition, OVCII ≤ 3,000 m], Pol2) CSA C22.2 No.107.1 (excluding models with remote control option) CSA C22.2 No.60950-1 (excluding models with remote control option) EN 50178 (OVCIII ≤ 2,000 m], OVCII > 2,000 m and ≤ 3,000 m], Pol2) EN 60950-1 (OVCII ≤ 3,000 m], Pol2) Conforms to EN/IEC 61558-2-16.			
	Marine Standards		No			
	SEMI		Conforms to F47-0706 (200 VAC input)			

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



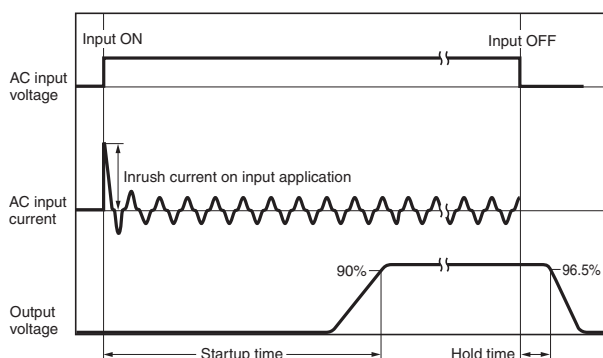
## Ratings, Characteristics, and Functions

<b>Efficiency</b>		The value is when both rated output voltage and rated output current are satisfied.
<b>Input</b>	<b>Voltage range</b>	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.
	<b>Frequency</b>	
	<b>Current</b>	The value is when both rated output voltage and rated output current are satisfied.
	<b>Leakage current</b>	The values are determined according to the Act on Power Supply Safety of Electrical Appliances and Materials.
	<b>Inrush current (for a cold start at 25°C)</b>	For a cold start at 25°C. Refer to the following figure.
<b>Output</b>	<b>Voltage adjustment range</b>	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.
	<b>Ripple &amp; Noise voltage</b>	The value is when both rated output voltage and rated output current are satisfied. A characteristic when the ambient operating temperature is 25°C.
	<b>Input variation influence</b>	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.
	<b>Load variation influence</b>	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.
	<b>Startup time</b>	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.
	<b>Hold time</b>	The value is when both rated output voltage and rated output current are satisfied. At 25°C. Refer to the following figure.
<b>Additional functions</b>	<b>Overvoltage protection</b>	Refer to <i>Overvoltage Protection</i> on page 17 for the time when input voltage shuts off and input turns on again.
<b>Reliability</b>	<b>Life expectancy</b>	Refer to <i>Recommended Replacement Periods and Periodic Replacement for Preventive Maintenance</i> on page 32 for details.
<b>Standards</b>	<b>EMI</b>	<b>Conducted Emissions</b>
		<b>Radiated Emissions</b>
		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.  
Power supplies with a DC input are beyond the range of applicability of the EC Directives and other safety standards (e.g., UL and EN).

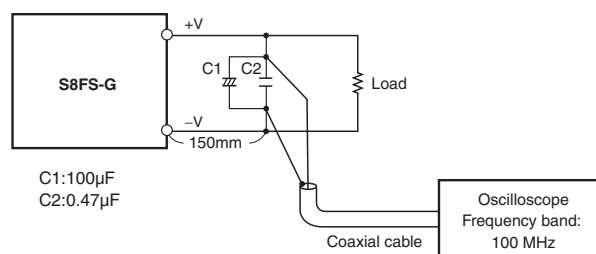
### Inrush Current, Startup Time, Output Hold Time



**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.





# S8FS-G

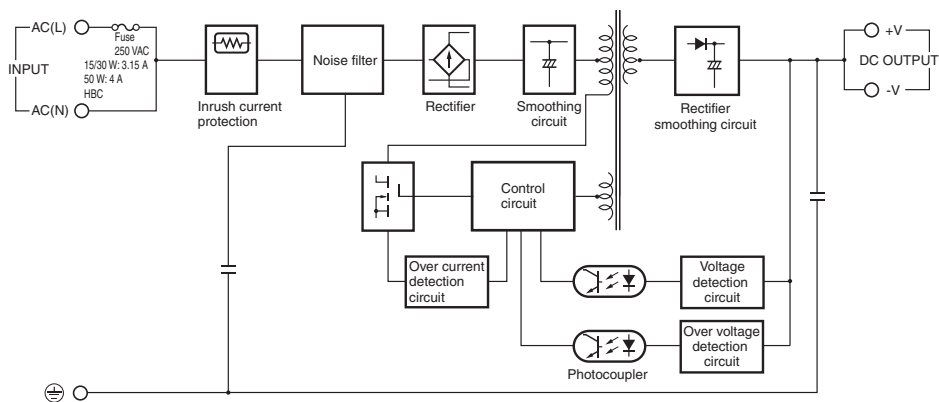
## Connections

### Block Diagrams

S8FS-G015□□□ (15 W)

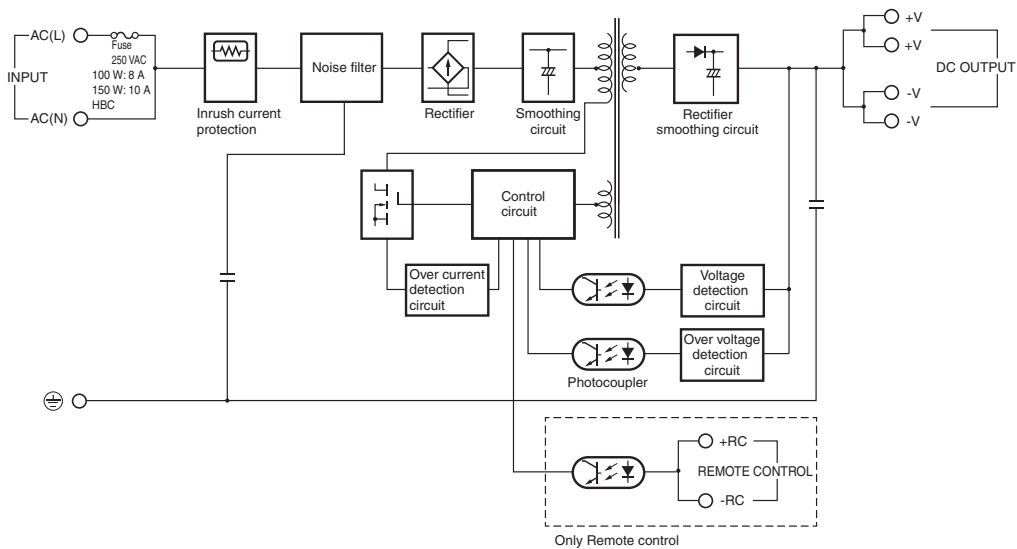
S8FS-G030□□□ (30 W)

S8FS-G050□□□ (50 W)

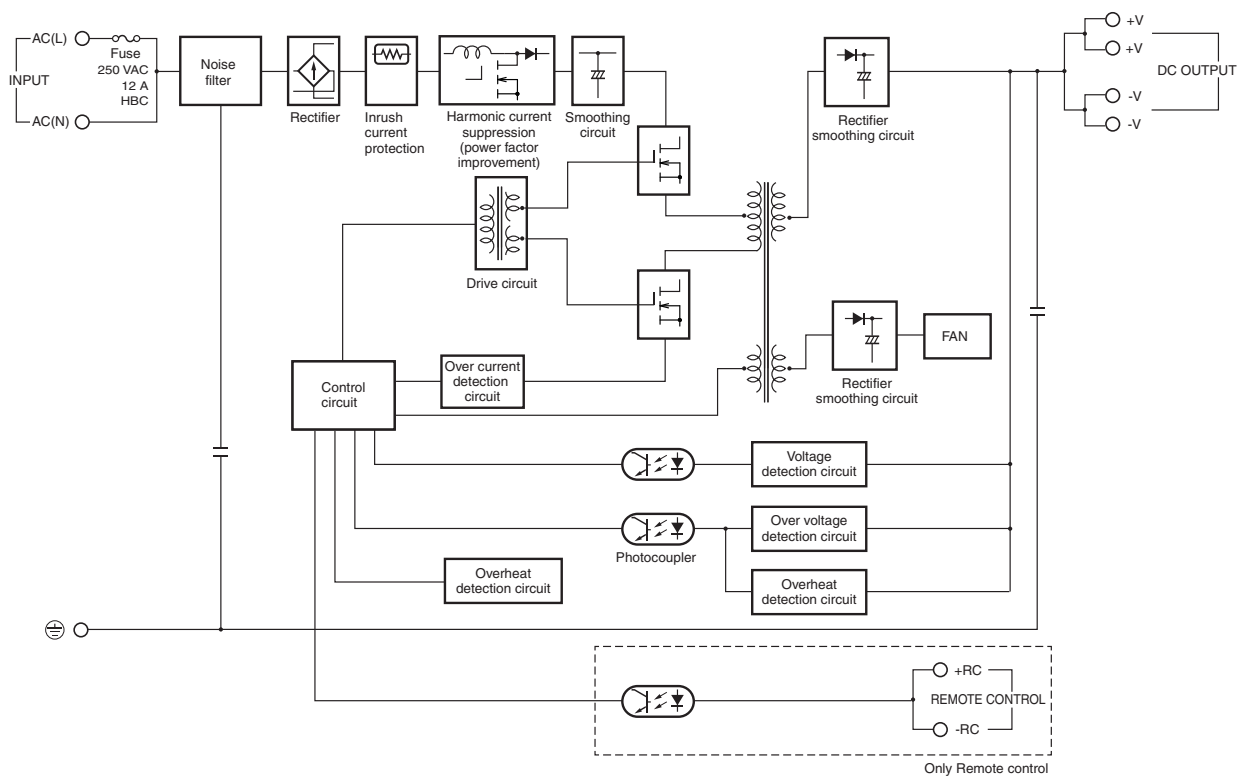


S8FS-G100□□□ (100 W)

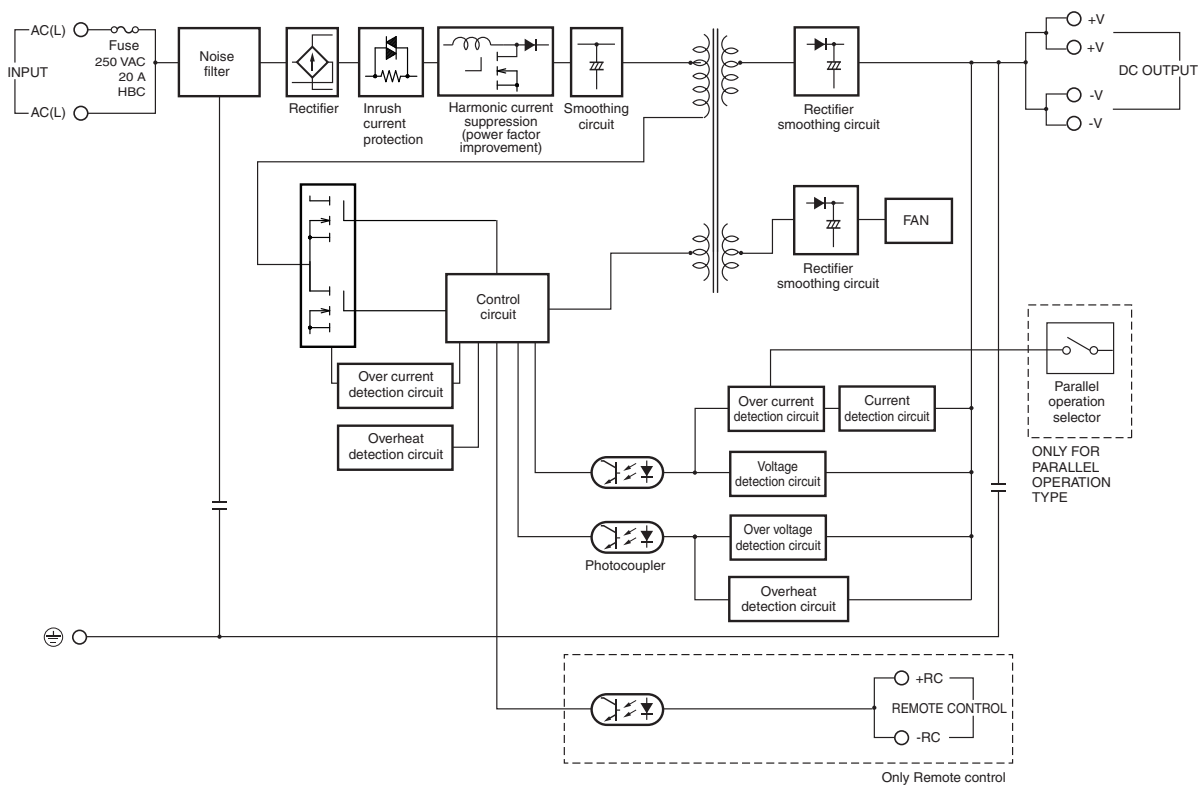
S8FS-G150□□□ (150 W)



S8FS-G300□□□ (300 W)



S8FS-G600□□□ (600 W)



# S8FS-G

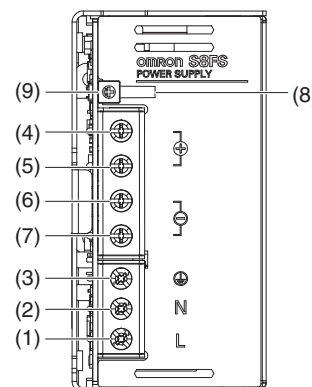
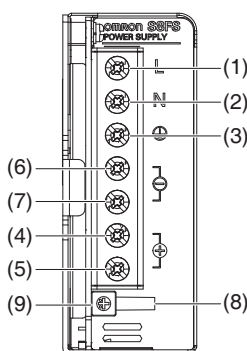
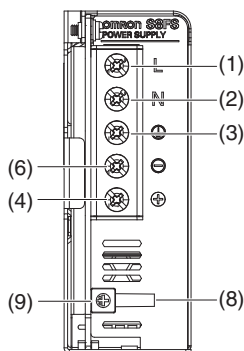
## Construction and Nomenclature

### Nomenclature

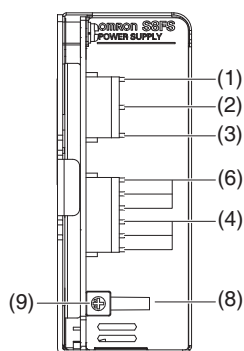
S8FS-G015□□□□  
 S8FS-G030□□□□  
 S8FS-G050□□□□

S8FS-G100□□□□  
 S8FS-G150□□□□

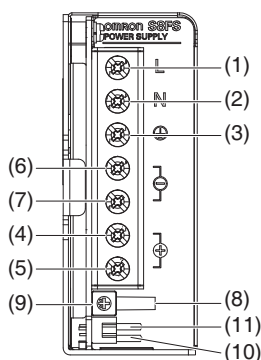
S8FS-G300□□□□  
 S8FS-G600□□□□



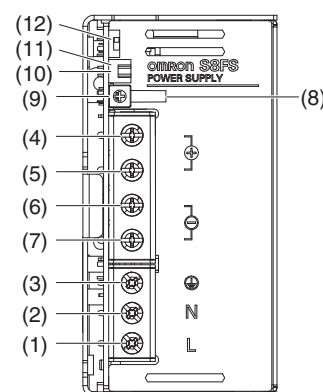
S8FS-G□□□24CE



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.			

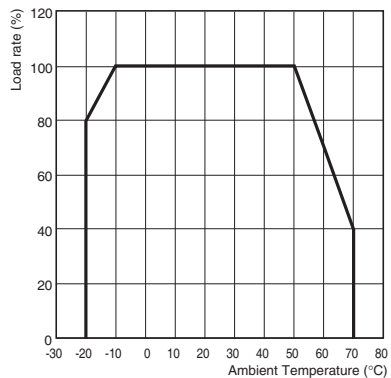
Note: The female connectors that are required for wiring are not provided with the Power Supply.

# Engineering Data

## Derating Curves

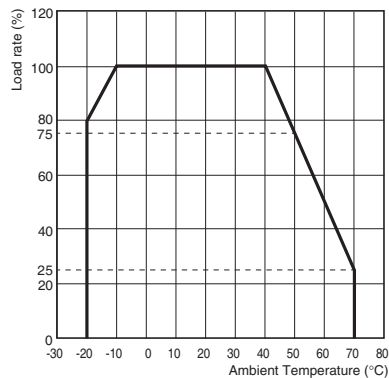
### Output Derating

15 W, 30 W, 50 W, 300 W, and 600 W



**Note:** At less than 100 VAC, derate the load at 1.3%/V.

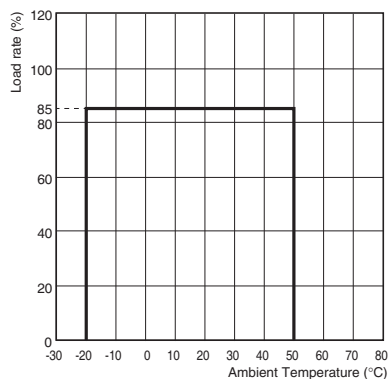
100 W and 150 W



**Note:** At less than 100 VAC, derate the load at 1.3%/V.

### Parallel Operation

For Models with Parallel Operation Option

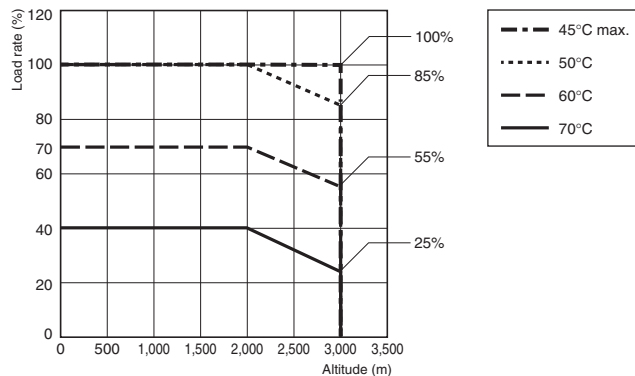


**Note:** At less than 100 VAC, derate the load at 1.3%/V.

# S8FS-G

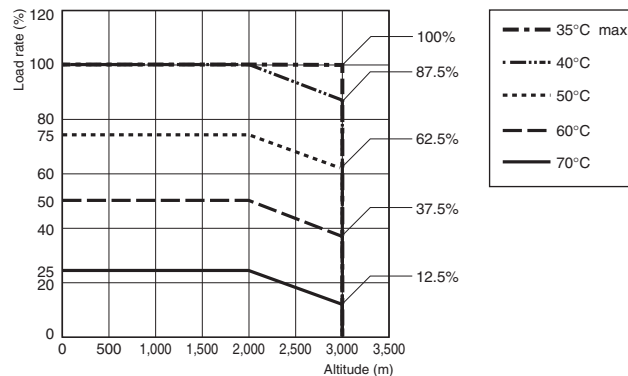
This Power Supply can be used at an altitude of 3,000 m.  
Between 2,000 and 3,000 m, derate the load according to the following derating curve.

## 15 W, 30 W and 50 W



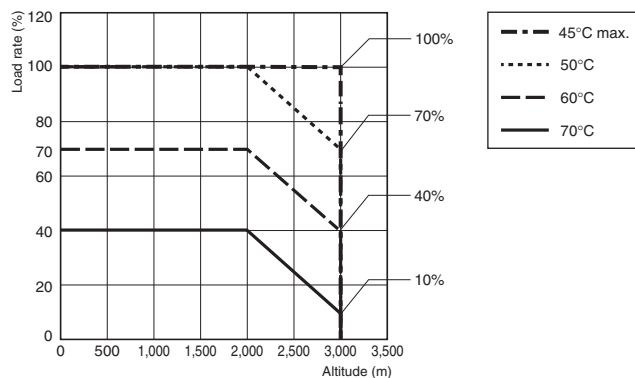
**Note:** At less than 100 VAC, derate the load at 1.3%/V.

## 100 W and 150 W



**Note:** At less than 100 VAC, derate the load at 1.3%/V.

## 300 W and 600 W

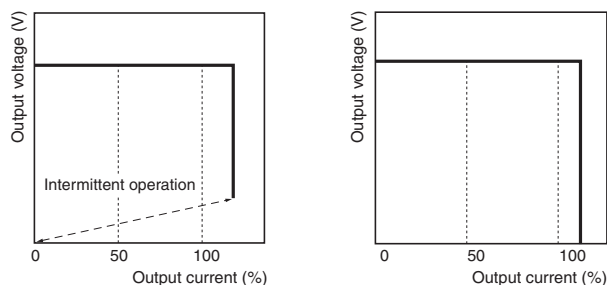


**Note:** At less than 100 VAC, derate the load at 1.3%/V.

## 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.



- 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)

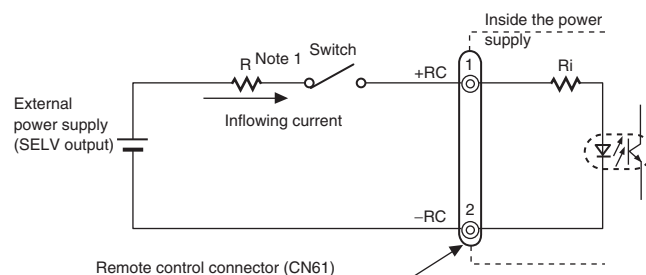
If the internal temperature of the Power Supply rises excessively as a result of fan failure or any other reason, the overheat protection circuit will be triggered to shut OFF the output voltage.

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.

Built-in resistance $R_i$ ( $\Omega$ )	Voltage between +RC and -RC (V)		Inrush current (mA)
	Output ON	Output OFF	
780	4.5 to 12.5	0 to 0.5	20 max.



Usage example of the remote control

### Connectors used:

	CN61	Applicable connector	Applicable contact
<b>Model</b>	B2B-XH-AM	XHP-2	SXH-001T-P0.6 or SXH-002T-P0.6
<b>Manufacturer</b>	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 k $\Omega$  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
<b>Reliability (MTBF)</b>	Single phase model
	15W: 970,000
	30W: 970,000
	50W: 880,000
	100W: 730,000
	150W: 620,000
	300W: 200,000
	600W: 190,000
<b>Definition</b>	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.
<b>Life expectancy</b>	10 yrs. Min.
<b>Definition</b>	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.

# S8FS-G

## Dimensions

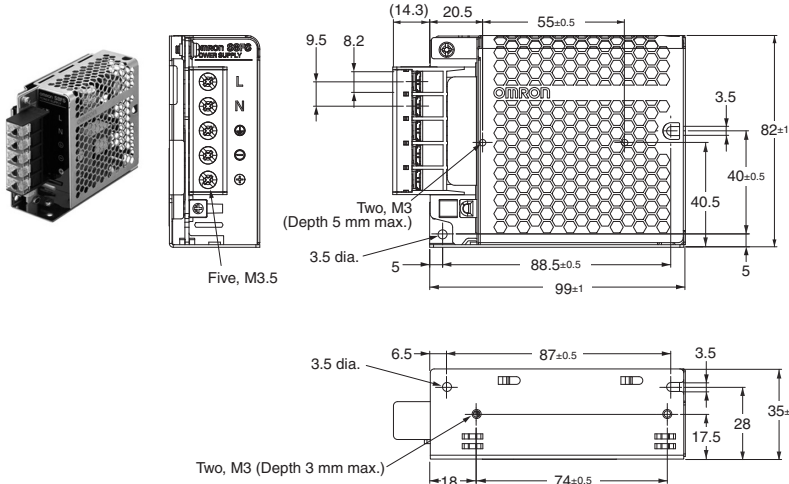
(Unit: mm)

### Power Supplies

15 W and 30 W

S8FS-G015□□C

S8FS-G030□□C

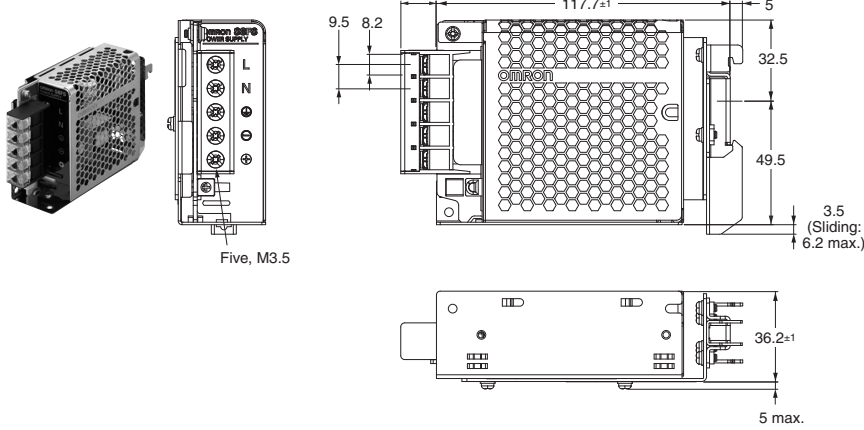


Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>	Two, M3 	Two, 3.5 dia. 
<b>Bottom Mounting</b>	Two, M3 	Two, 3.5 dia. 

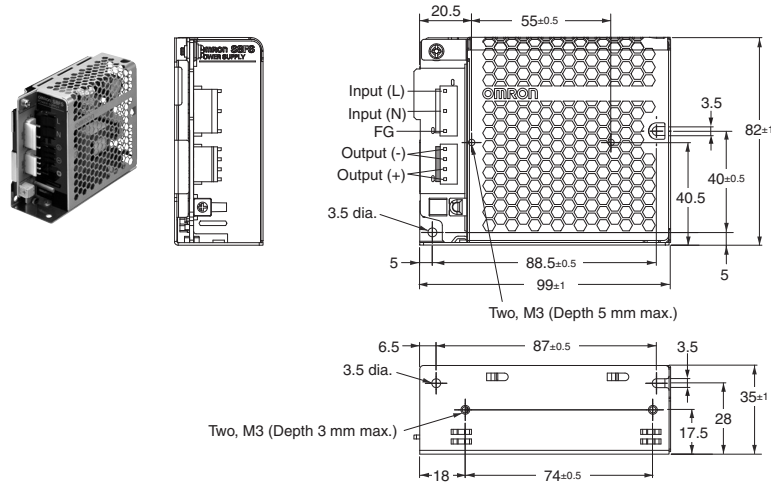
S8FS-G015□□CD

S8FS-G030□□CD



S8FS-G015□□E

S8FS-G030□□E



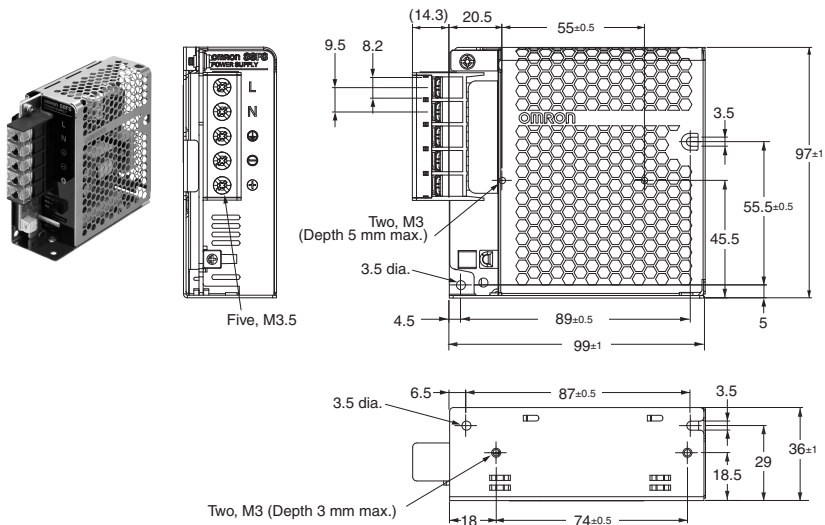
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>	Two, M3 	Two, 3.5 dia. 
<b>Bottom Mounting</b>	Two, M3 	Two, 3.5 dia. 



50W

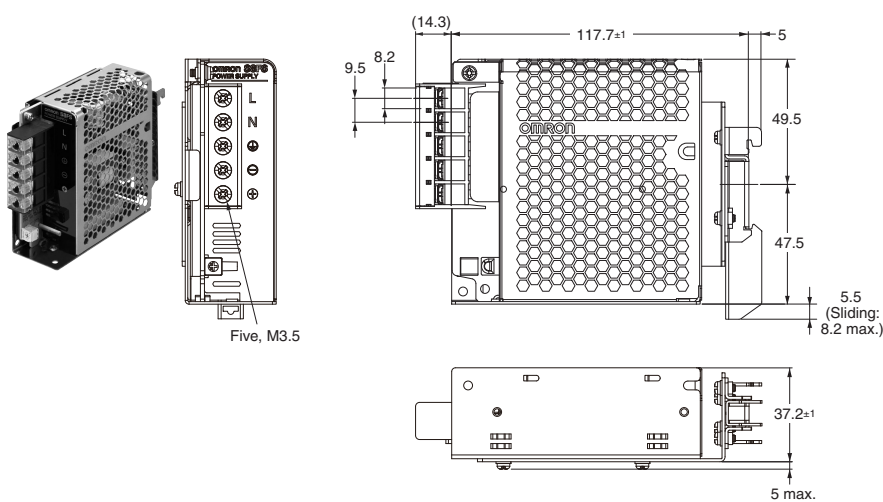
S8FS-G050□□C



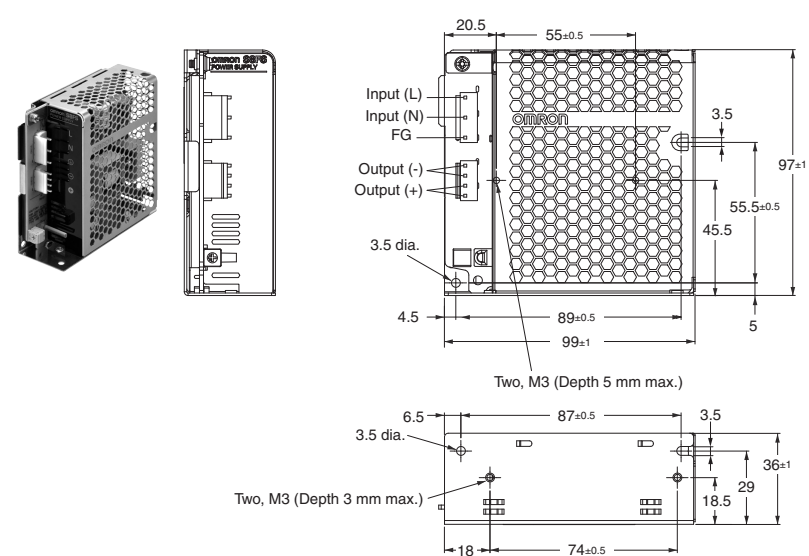
Panel mounting holes dimensions

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

S8FS-G050□□CD



S8FS-G050□□E



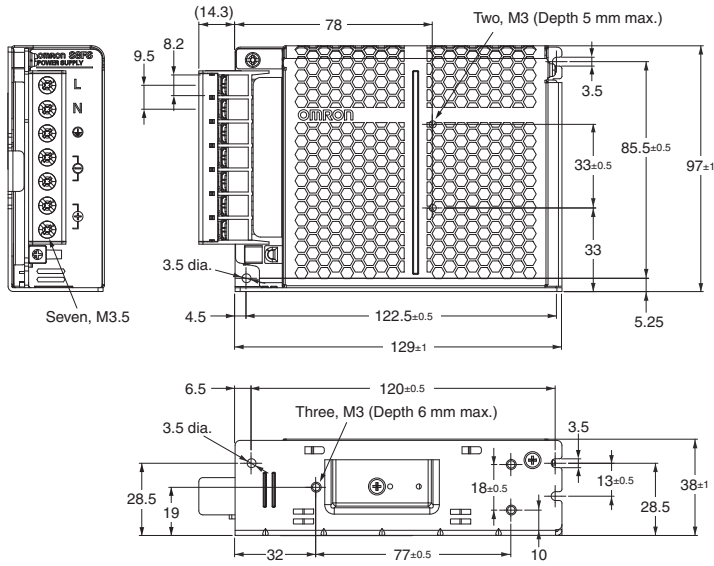
Panel mounting holes dimensions

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

# S8FS-G

100W

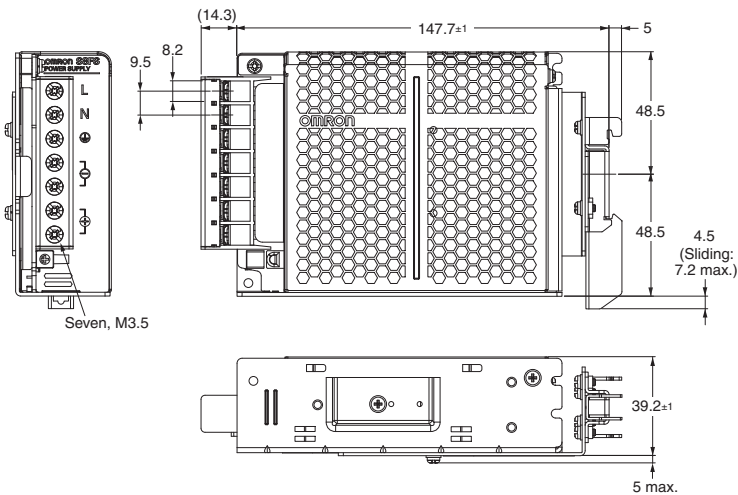
S8FS-G100□□C



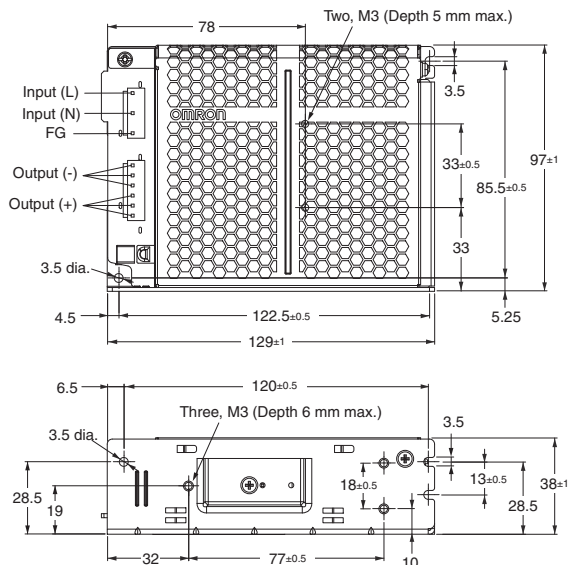
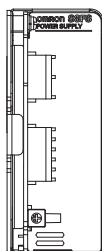
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>		
<b>Bottom Mounting</b>		

S8FS-G100□□CD



S8FS-G100□□E



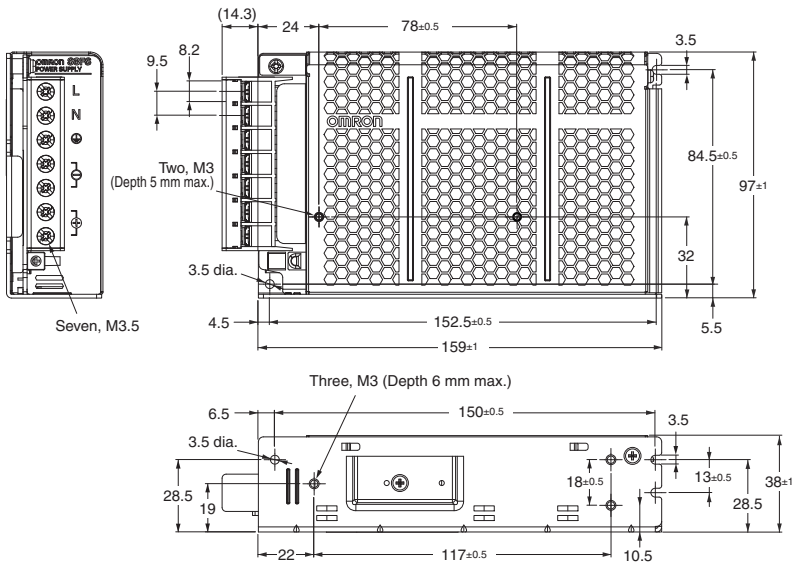
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>		
<b>Bottom Mounting</b>		

# S8FS-G

150W

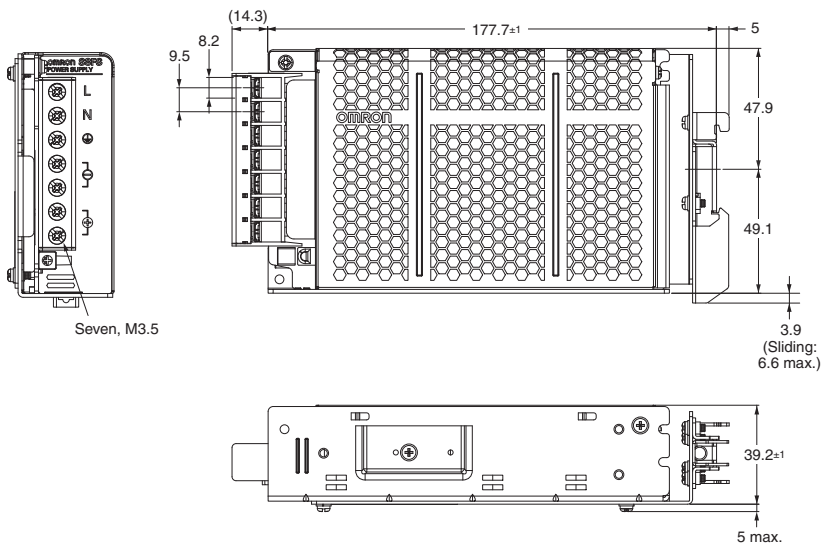
S8FS-G150□□C



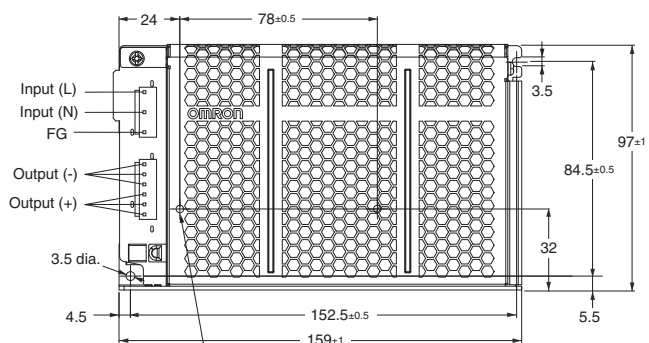
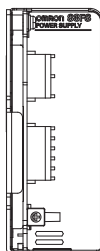
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>		
<b>Bottom Mounting</b>		

S8FS-G150□□CD

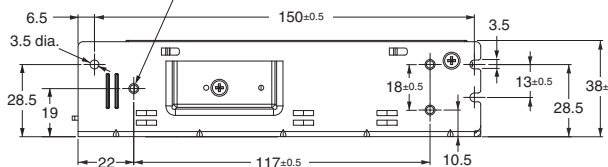


S8FS-G150□□E



Two, M3 (Depth 5 mm max.)

Three, M3 (Depth 6 mm max.)



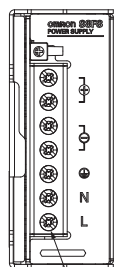
Panel mounting holes dimensions

	Using the mounting holes in the Power Supply	Using the screw holes in the Power Supply
<b>Side Mounting</b>	<p>Two, M3</p>	<p>Two, 3.5 dia.</p>
<b>Bottom Mounting</b>	<p>Three, M3</p>	<p>Three, 3.5 dia.</p>

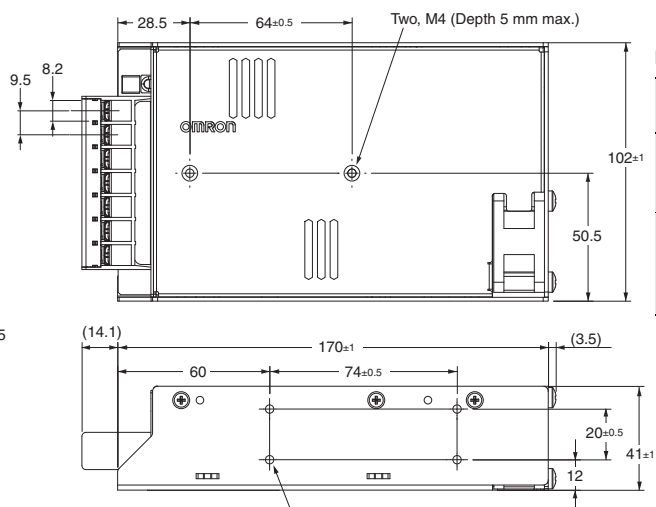
# S8FS-G

300W

S8FS-G300□□C



Seven, M3.5

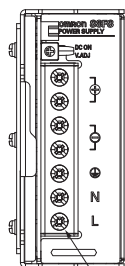


Four, M4 (Depth 5 mm max.)

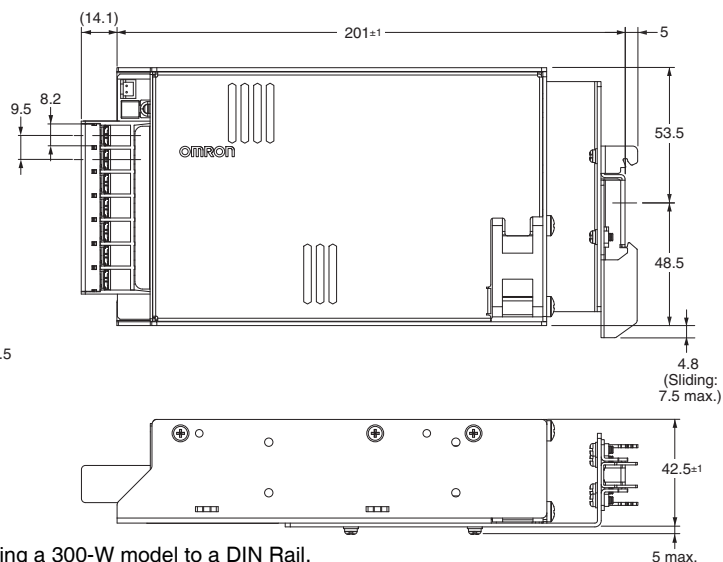
**Panel mounting holes dimensions**

Using the screw holes in the Power Supply	
<b>Side Mounting</b>	Two, 4.5 dia. 64±0.5
<b>Bottom Mounting</b>	Four, 4.5 dia. 74±0.5 20±0.5

S8FS-G300□□CD



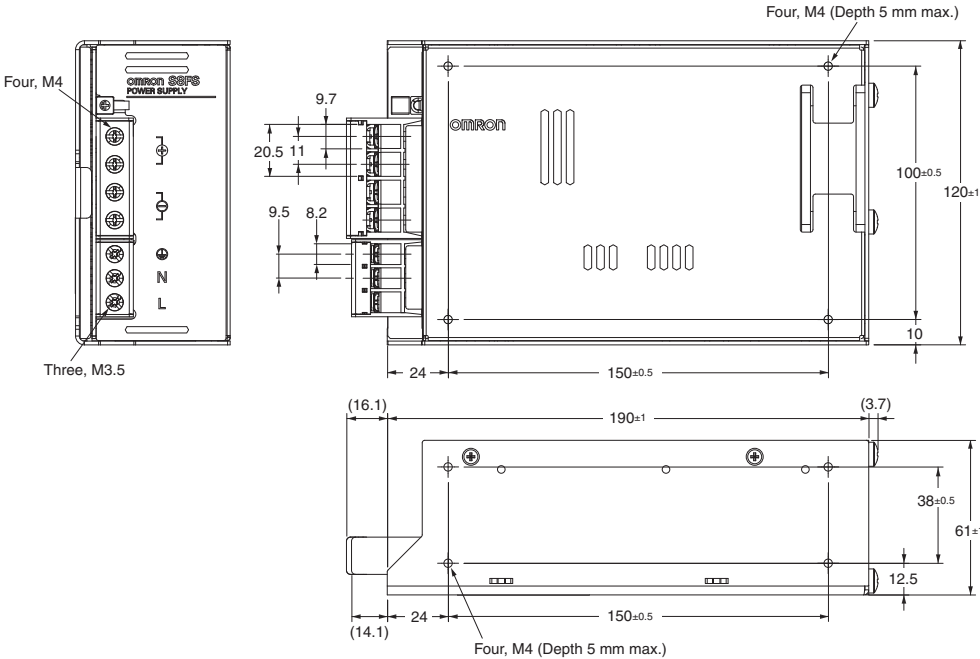
Seven, M3.5



**Note:** Use a metal DIN Rail when mounting a 300-W model to a DIN Rail.

600W

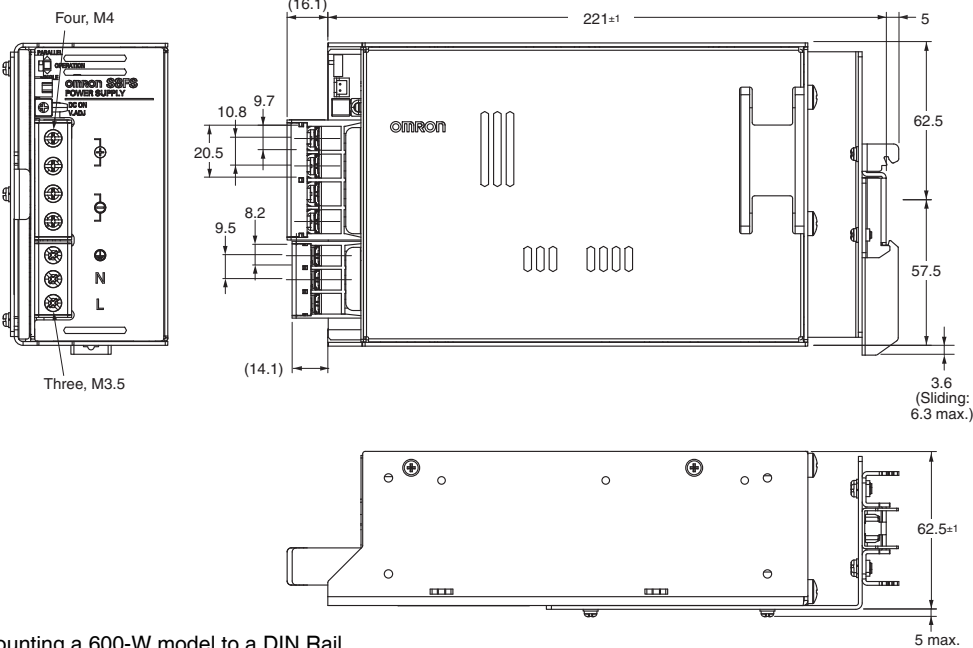
S8FS-G600□□C



Panel mounting holes dimensions

	Using the screw holes in the Power Supply
Side Mounting	Four, 4.5 dia. 100±0.5 150±0.5
Bottom Mounting	Four, 4.5 dia. 38±0.5 150±0.5

S8FS-G600□□CD



Note: Use a metal DIN Rail when mounting a 600-W model to a DIN Rail.



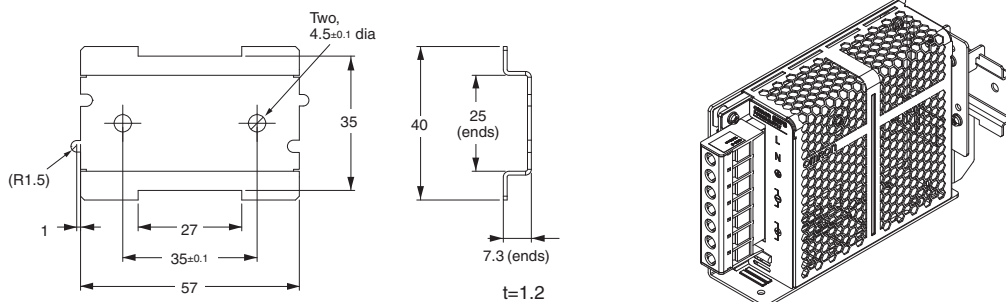
# S8FS-G

## Mounting Brackets (Order Separately)

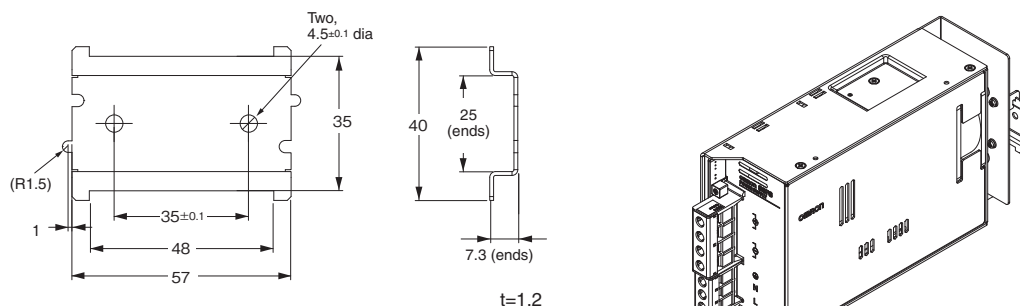
Use the Front-mounting Brackets together with DIN Rail-mounting Power Supplies (S8FS-G□□□□□CD).

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

### S82Y-FSG-30F



### S82Y-FSG-60F



## 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□□□□	

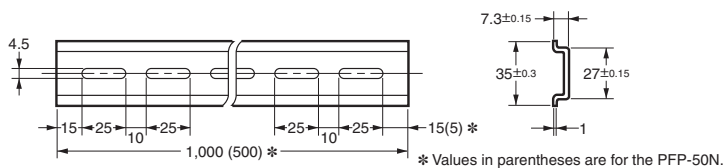
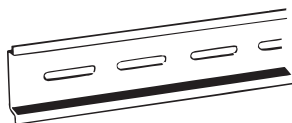
**Note:** A Terminal Block Cover is provided with the Power Supply as a standard accessory. You can purchase another one if your Cover is damaged or lost.

DIN Rail (Order Separately)

Mounting Rail (Material: Aluminum)

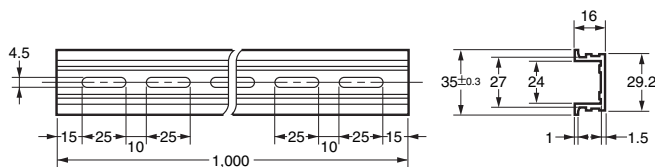
PFP-100N

PFP-50N



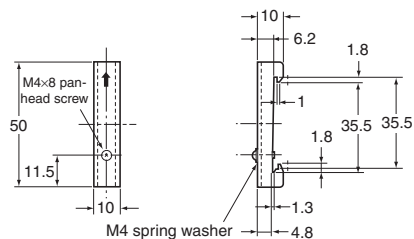
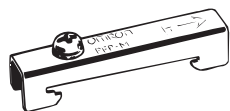
Mounting Rail (Material: Aluminum)

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

 <b>CAUTION</b>	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.
<b>Precautions for Safe Use</b>	Supplementary comments on what to do or avoid doing, to use the product safely.
<b>Precautions for Correct Use</b>	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.

 <b>CAUTION</b>	
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.
- The internal parts may occasionally deteriorate or be damaged. Use the Power Supply within the derating curve.
- 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

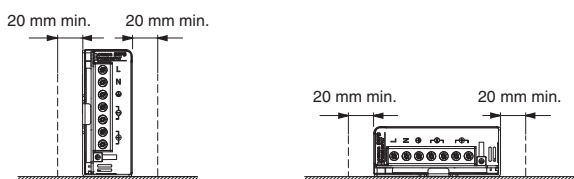
- Do not use the Power Supply in locations subject to shocks or vibrations. In particular, install the Power Supply as far away as possible from contractors or other devices that are a vibration source.
- Install the Power Supply well away from any sources of strong, high-frequency noise and surge.

### Mounting

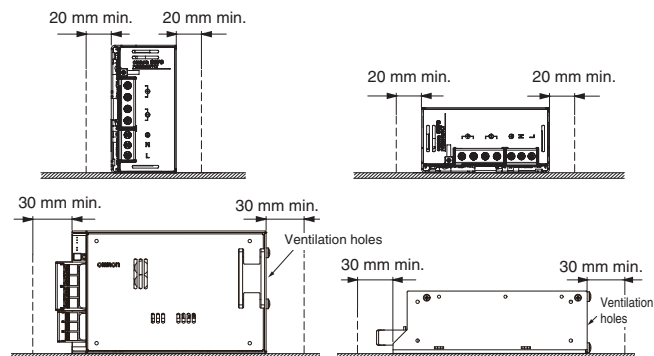
- Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Power Supply. Be sure to allow convection in the atmosphere around devices when mounting. Do not use in locations where the ambient temperature exceeds the range of the derating curve. The S8FS-G015□□□□ 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

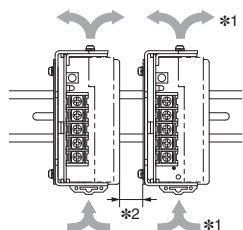
#### S8FS-G015□□□ to 150□□□



#### S8FS-G300□□□ and S8FS-G600□□□



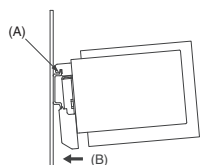
**Note:** Use a metal plate as the mounting surface.



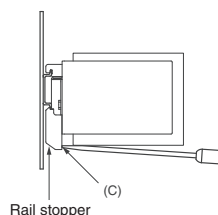
- \*1. Convection of air.
- \*2. 2.20 mm min.

#### <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	Recommended 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□□	
	S8FS-G01505□□	AWG12-20
	S8FS-G03012□□, 03015□□	
	S8FS-G05015□□, 05024□□	
	S8FS-G15048□□	
	S8FS-G05012□□	AWG12-18
	S8FS-G10024□□	
	S8FS-G03005□□	AWG12-16
	S8FS-G10015□□	
	S8FS-G15024□□	
	S8FS-G30048□□	AWG12-14
	S8FS-G05005□□	
	S8FS-G10012□□	
	S8FS-G15015□□	
	S8FS-G10005□□	AWG12
S8FS-G15005□□, 15012□□		
S8FS-G30012□□ to 30024□□	AWG10-12	
S8FS-G60015□□ to 60048□□		
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	Recommended 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 14 for the model numbers of the input and output connectors.

#### Overcurrent Protection

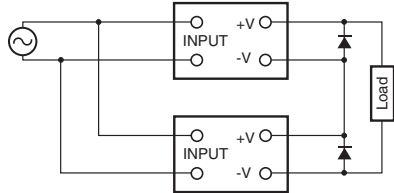
- Internal parts may possibly deteriorate or be damaged if a short-circuited, overload, or boost load state continues during operation.
- Internal parts may possibly deteriorate or be damaged if the Power Supply is used for applications with frequent inrush current or overloading at the load end. Do 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.



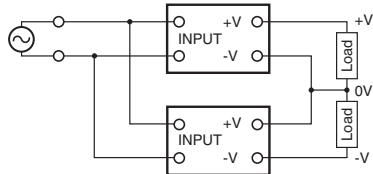
**Note: 1.** The diode is connected as shown in the figure. If the load is short-circuited, a reverse voltage will be generated inside the Power Supply. If this occurs the Power Supply may possibly deteriorate or be damaged. Always connect a diode as shown in the figure. Select a diode having the following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

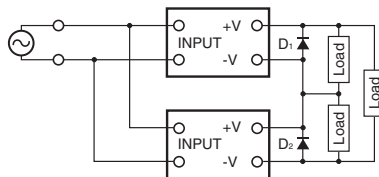
2. Although Power Supply having different specifications can be connected in series, the current flowing through connected in series, the current flowing through the load must not exceed the smaller rated output current.

**<Making Positive/Negative Outputs>**

- The outputs are floating outputs (i.e., the primary circuits and secondary circuits are separated). You can therefore make positive/negative outputs by using two Power Supplies. You can make positive/negative outputs with any of the models. If you use positive/negative outputs, connect two Power Supplies of the same model as shown below. You can combine models with different output capacities and output voltages. However, use the lower of the two rated 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.

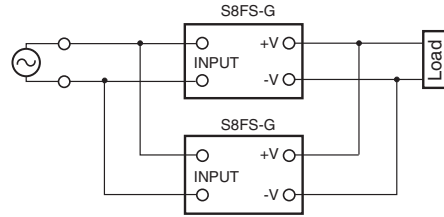


- Use the following information as a guide to the diode type, dielectric strength, and current.

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.



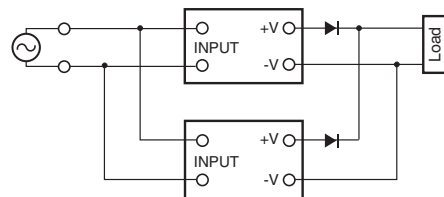
**Power Supplies without the Parallel Operation Option**  
Parallel operation is not possible.

**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.

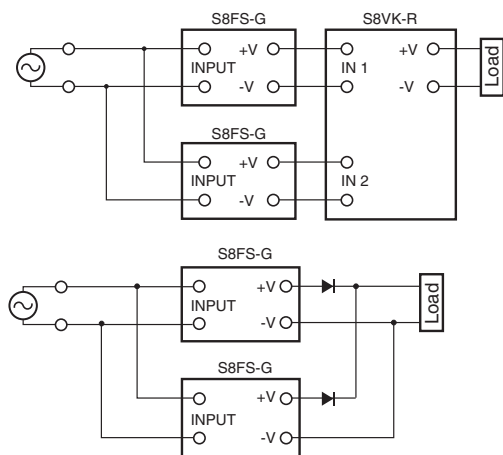
- The internal parts may occasionally deteriorate or be damaged. To operate in parallel, set the switch to the "PARALLEL" side.
- For parallel operation, always use Power Supplies with the same model number.
- Use the output voltage adjusters (V. ADJ) to adjust the difference in the output voltages to 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

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### 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

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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.**

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

## **Errors and Omissions.**

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

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