

# Switch Mode Power Supply 88JX (15/35/50/100/150/300/600-W Models)

# Low-profile Power Supply to Help **Reduce Panel Depth**

Easy Mounting:

Mounting Bracket provided as a standard feature. (except for DIN Rail-mounting models) Mounts to DIN Rail. (except 600-W model) Screw-mount at the top. (except 300-/600-W models)

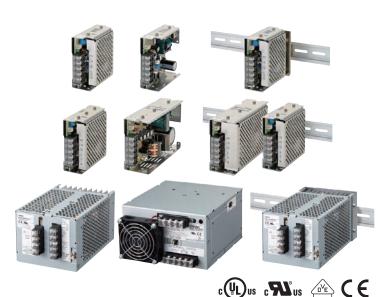
Safety standards:

UL 508/60950-1 cUL CSA C22.2 No. 107.1 cUR CSA C22.2 No. 60950-1 EN 50178 (= VDE 0160) EN 60950-1 (= VDE 0805 Teil 1)

• EMC: Conforms to EN 61204-3 Class A.

EMI: EN55011 EMS: EN61000-4

Note: Refer to Safety Precautions on page 17.



#### **Model Number Structure**

#### **Model Number Legend**

Note: Not all combinations are possible. Refer to List of Models in Ordering Information on page 2.

#### 15-/35-/50-/100-/150-W Models

S8JX-G 3 4

1. Power Ratings 015: 15 W

035: 35 W

050: 50 W

100: 100 W

150: 150 W

2. Output Voltage

05: 5 V

12: 12 V

15: 15 V

24: 24 V

#### 300-/600-W Models

S8JX-G 3

1. Power Ratings

300: 300 W

600: 600 W

2. Output Voltage

24: 24 V

3. Configuration/mounting (covered type)

C: Front-mounting CD: DIN Rail-mounting

#### 3. Configuration (15/35/50/100/150 W model)

None: Open-frame C: Covered

#### 4. Configuration/mounting

None: Front-mounting D: DIN Rail-mounting

# **Ordering Information**

#### **List of Models**

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

Con	figuration	Input voltage	Power ratings	Output voltage (VDC)	Output current	Model
				5 VDC	3 A	S8JX-G01505
			15 W	12 V	1.3 A	S8JX-G01512
			15 **	15 V	1 A	S8JX-G01515
				24 V	0.65 A	S8JX-G01524
				5 V	7 A	S8JX-G03505
			0F W	12 V	3 A	S8JX-G03512
			35 W	15 V	2.4 A	S8JX-G03515
	Front-mounting *1			24 V	1.5 A	S8JX-G03524
				5 V	10 A	S8JX-G05005
			50 W	12 V	4.2 A	S8JX-G05012
				24 V	2.1 A	S8JX-G05024
				5 V	20 A	S8JX-G10005
			100 W	12 V	8.5 A	S8JX-G10012
				24 V	4.5 A	S8JX-G10024
Open-frame Power			150 W	24 V	6.5 A	S8JX-G15024
Supplies			100 11	5 V	3 A	S8JX-G01505D
арроо				12 V	1.3 A	S8JX-G01512D
			15 W	15 V	1.3 A	S8JX-G01512D
						S8JX-G01513D
				24 V	0.65 A	
				5 V	7 A	S8JX-G03505D
			35 W	12 V	3 A	S8JX-G03512D
	DIN D " "			15 V	2.4 A	S8JX-G03515D
	DIN Rail-mounting			24 V	1.5 A	S8JX-G03524D
				5 V	10 A	S8JX-G05005D
			50 W	12 V	4.2 A	S8JX-G05012D
				24 V	2.1 A	S8JX-G05024D
				5 V	20 A	S8JX-G10005D
			100 W	12 V	8.5 A	S8JX-G10012D
		100 to 240 VAC		24 V	4.5 A	S8JX-G10024D
		(free)	150 W	24 V	6.5 A	S8JX-G15024D
				5 V	3 A	S8JX-G01505C
		(100 to 370 VDC *2)	45.14	12 V	1.3 A	S8JX-G01512C
			15 W	15 V	1 A	S8JX-G01515C
				24 V	0.65 A	S8JX-G01524C
				5 V	7 A	S8JX-G03505C
				12 V	3 A	S8JX-G03512C
			35 W	15 V	2.4 A	S8JX-G03515C
	Front-mounting *1		-	24 V	1.5 A	S8JX-G03524C
	Tront mounting 4-1		50 W	5 V	10 A	S8JX-G05005C
				12 V	4.2 A	S8JX-G05012C
				24 V	2.1 A	S8JX-G05024C
				5 V	20 A	S8JX-G10005C
			100 W			
				12 V	8.5 A	S8JX-G10012C
			450 144	24 V	4.5 A	S8JX-G10024C
			150 W	24 V	6.5 A	S8JX-G15024C
overed Power				5 V	3 A	S8JX-G01505CD
upplies			15 W	12 V	1.3 A	S8JX-G01512CD
				15 V	1 A	S8JX-G01515CD
				24 V	0.65 A	S8JX-G01524CD
				5 V	7 A	S8JX-G03505CD
			35 W	12 V	3 A	S8JX-G03512CD
			35 W	15 V	2.4 A	S8JX-G03515CD
	DIN Rail-mounting			24 V	1.5 A	S8JX-G03524CD
				5 V	10 A	S8JX-G05005CD
			50 W	12 V	4.2 A	S8JX-G05012CD
				24 V	2.1 A	S8JX-G05024CD
				5 V	20 A	S8JX-G10005CD
			100 W	12 V	8.5 A	S8JX-G10012CD
			100 44	24 V	4.5 A	S8JX-G10012CD
			150 \/	24 V		
			150 W	24 V	6.5 A	S8JX-G15024CD
	Front-mounting *1	100 to 120 VAC	300 W	0411	14 A	S8JX-G30024C
		200 to 240 VAC	600 W	24 V	27 A	S8JX-G60024C
	DIN Rail-mounting	(Swichable)	300 W		14 A	S8JX-G30024CD

**<sup>\*1.</sup>** The front-mounting bracket is included as standard with the product. **\*2.** Safety standards, however, are not applicable.

#### Ratings, Characteristics, and Functions

		Input specification	100 to 2	40 V input	
Item		Power ratings *1	15 W	35 W	
Efficiency			68% min.	73% min.	
			100 to 240 VAC (85 to 264 VAC)		
	Voltage *2		100 to 370 VDC		
			Note: This range is not applicable for the safety standards.		
	Frequency *2		50/60 Hz (47 to 450 Hz)		
	Current *3	100 V input	0.4 A	1 A	
	D	200 V input	0.25 A	0.6 A	
Input	Power factor			<del></del>	
	Harmonic current emissions				
	Leakage current *3	100 V input	0.5 mA max.		
		200 V input	1 mA max.		
	Inrush current (for a cold start at 25°C) *3	100 V input	20 A max.		
	Noise filter	200 V input	40 A max. Yes		
		200 VE	-10% to 15% (with V. ADJ)		
	Voltage adjustment ran Ripple *3	190 10	2% (p-p) max.		
	Input variation influence	20	0.4% max.		
Output *4	Load variation influence		0.8% max. (0 to 100% load, rated input vol	tage)	
Output #4	Temperature variation		0.05%/°C max. (at rated input and output)	tage)	
	Startup time	midence	500 ms max. (up to 90% of output voltage	at rated input and output)	
	Hold time *3		20 ms min.	at rated input and output)	
			20 ms min.  105% to 160% of rated load current, voltage drop, intermittent, automatic reset		
	Overload protection *6  Overvoltage protection *7		Yes		
Additional	Overheat protection		No		
functions	Parallel operation		No		
	Series operation		Yes (For up to two Power Supplies; externation	al diodes required )	
	Protective circuit operation indicator		No	a. a.oaoo .oqaoa.,	
	Ambient operating temperature		Refer to the derating curve in <i>Engineering</i> condensation)	Data on page 9 (with no icing or	
	Storage temperature		-25 to 65°C (with no icing or condensation	)	
	Ambient operating humidity		25% to 85% (Storage humidity: 25% to 90%)	•	
	Dielectric strength		3.0 kVAC for 1 min. (between all inputs and outputs; detection current: 20 mA) 2.0 kVAC for 1 min. (between all inputs and PE terminals; detection current: 20 mA) 1.0 kVAC for 1 min. (between all outputs and PE terminals; detection current: 20 mA)		
	Insulation resistance		100 M $\Omega$ min. (between all outputs and all inputs/PE terminals) at 500 VDC		
	Vibration resistance		10 to 55 Hz, 0.375-mm single amplitude for 2h each in X, Y, and Z directions		
	Shock resistance		150m/s², 3 times each in ±X, ±Y, ±Z directions		
	Output indicator		Yes (Color: Green)		
	ЕМІ	Conducted Emissions *3	Conforms to EN 55011 Group 1 Class A ar	nd based on FCC Class A	
011	LIVII	Radiated Emissions	Conforms to EN 55011 Group 1 Class A		
Other		Electrostatic Discharge	Confirms to EN61000-4-2		
		Radiated Electromagnetic Field	Confirms to EN61000-4-3		
	EMS	Electrical Fast Transient/Burst	Confirms to EN61000-4-4		
	LIVIS	Surge	Confirms to EN61000-4-5		
		Conducted Disturbance	Confirms to EN61000-4-6		
	Voltage Dips/Short Interruptions		Confirms to EN61000-4-11		
			UL 508 (Listing), UL 60950-1		
	Approved standards		cUL: CSA C22.2 No.107.1 cUR: CSA C22.2 No. 60950-1		
			EN/VDE: EN50178 (= VDE 0160), EN 60950-1 (= VDE 0805 Teil 1) (Terminal block: Based on DIN50274 (VDE 0660-514))		
	SEMI		SEMI F47-0200 (200-VAC input)		
	Weight *8		250 g max.		

<sup>\*1.</sup> When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the Power Supply may not start. Refer to Overload Protection on page 11.

<sup>\*2.</sup> 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. **\*3.** Rated input voltage: 100 or 200 VAC at 100% load.

**<sup>\*4.</sup>** Output characteristics: Specified at power supply output terminals.

<sup>\*5.</sup> 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 load is not damaged.

**<sup>\*6.</sup>** For details, refer to *Overload Protection* on page 11.

<sup>\*7.</sup> To reset the protection, turn OFF the input power for seven minutes or longer and then turn it back ON.

**<sup>\*8.</sup>** The weight indicated is for Front-mounting, Open-frame Power Supplies.

	Input specification		100 to 240 V input		
Item	Power ratings *1		50 W	100 W	150 W
Efficiency			76% min.		86% min.
	Voltage *2		100 to 240 VAC (85 to 264 VAC)		
Vo			100 to 370 VDC		
-				applicable for the safety stan	dards.
Fre	equency *2	400 11 11	50/60 Hz (47 to 450 Hz)		
Cu	ırrent *3	100 V input	1.4 A	2.5 A	3.5 A
_		200 V input	0.8 A	1.5 A	2.1 A
iiput	Power factor				
на	armonic current emis	t	0.5 4		
Lea	akage current *3	100 V input	0.5 mA max.		
		200 V input	1 mA max.		
	rush current (for a lld start at 25°C) *3	100 V input	20 A max.		
		200 V input	40 A max.		
	oise filter	25 VE	Yes	D I)	
	oltage adjustment ran	ige ad	-10% to 15% (with V. A	DO)	
<del></del>	pple *3 put variation influenc	-	2% (p-p) max. 0.4% max.		
<del>-</del> -	put variation influence			oad, rated input voltage)	
•	emperature variation		0.05%/°C max. (at rated	. , , , ,	
	artup time	iiiiueiice	`	6 of output voltage at rated in	uput and output)
<del></del>	old time *3		` .	o or output voltage at rateu in	iput and output)
			20 ms min.		
	Overload protection *6		105% to 160% of rated load current, voltage drop, intermittent, automatic reset  Yes		
_	Overhoot protection *7		No		
tuaitionai	Overheat protection		No		
- α	Parallel operation			er Supplies; external diodes	required \
<del></del>	Series operation		No	er Supplies, external diodes	required.)
	Protective circuit operation indicator  Ambient operating temperature			ve in <i>Engineering Data</i> on na	ge 9 (with no icing or condense
<del></del>	orage temperature	perature	-25 to 65°C (with no icir		ge 5 (with the letting of condense
	nbient operating hun	nidity	25% to 85% (Storage hi		
	Dielectric strength		3.0 kVAC for 1 min. (bet 2.0 kVAC for 1 min. (bet	tween all inputs and outputs; tween all inputs and PE term	detection current: 20 mA) inals; detection current: 20 mA minals; detection current: 20 mA
Ins	sulation resistance		100 M $\Omega$ min. (between all outputs and all inputs/PE terminals) at 500 VDC		
Vik	bration resistance		10 to 55 Hz, 0.375-mm single amplitude for 2h each in X, Y, and Z directions		
Sh	ock resistance		150m/s², 3 times each in ±X, ±Y, ±Z directions		
Ou	utput indicator		Yes (Color: Green)		
	A1	Conducted Emissions *3	Conforms to EN 55011	Group 1 Class A and based	on FCC Class A
EM	AI .	Radiated Emissions	Conforms to EN 55011	Group 1 Class A	
Other		Electrostatic Discharge	Confirms to EN61000-4	-2	
		Radiated Electromagnetic Field	Confirms to EN61000-4	-3	
	AC.	Electrical Fast Transient/Burst	Confirms to EN61000-4	-4	
EM	no .	Surge	Confirms to EN61000-4	-5	
		Conducted Disturbance	Confirms to EN61000-4	-6	
	Voltage Dips/Short Interruptions		Confirms to EN61000-4	-11	
	Approved standards		UL 508 (Listing), UL 609	950-1	
Ap			cUL: CSA C22.2 No.107.1 cUR: CSA C22.2 No. 60950-1		
			EN/VDE: EN50178 (= VDE 0160), EN 60950-1 (= VDE 0805 Teil 1) (Terminal block: Based on DIN50274 (VDE 0660-514))		
SE	SEMI		SEMI F47-0200 (200-V/	AC input)	
	Weight *8		300 g max.	550 g max.	600 g max.

<sup>\*1.</sup> When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the Power Supply may not start. Refer to Overload Protection on page 11.

<sup>\*2.</sup> 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.

\*3. Rated input voltage: 100 or 200 VAC at 100% load.

**<sup>\*4.</sup>** Output characteristics: Specified at power supply output terminals.

<sup>\*5.</sup> 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 load is not damaged.

\*6. For details, refer to *Overload Protection* on page 11.

\*7. To reset the protection, turn OFF the input power for seven minutes or longer and then turn it back ON.

**<sup>\*8.</sup>** The weight indicated is for Front-mounting, Open-frame Power Supplies.

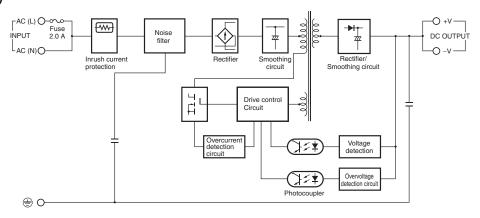
	Input specification		100/200 V (Selected)		
Item		Power ratings *1	300 W	600 W	
Efficiency			82% min.	80% min.	
	Voltage *2		100 to 120 VAC (85 to 132 VAC) 200 to 240 VAC (170 to 264 VAC) (Swichable)		
	Frequency *2		50/60 Hz (47 to 450 Hz)		
	Current *3	100 V input	8 A max.	14 A max.	
	Current 43	200 V input	4.5 A max.	8 A max.	
nput	Power factor				
	Harmonic current emissions				
	Lockers suggest st2		0.5 mA max.		
	Leakage current *3	200 V input	1 mA max.		
	Inrush current (for a	100 V input	25 A max.	30 A max.	
	cold start at 25°C) *3	200 V input	50 A max.	60 A max.	
	Noise filter		Yes		
	Voltage adjustment rar	nge <b>*</b> 5	-10% to 15% (with V. ADJ)		
	Ripple *3		2% (p-p) max.		
	Input variation influence	ce	0.4% max.		
Output *4	Load variation influence	ce	0.8% max. (0 to 100% load, rated input vol	age)	
	Temperature variation	influence	0.05%/°C max.		
	Startup time		650 ms max.	500 ms max.	
	Hold time *3		20 ms min.		
	Overload protection *6		105% of rated load current, voltage drop, intermittent, automatic reset	105% of rated load current, Inverted L voltage drop, the circuit will be shut OFF when the overload exceeds 5 s. *9	
امسمانات	Overvoltage protection *7		Yes	Yes *9	
Additional unctions	Overheat protection		No	Yes *9	
	Parallel operation		Yes (up to 5 units)		
	Series operation		Yes (For up to two Power Supplies; externa	al diodes required.)	
	Protective circuit operation indicator		No	Yes (color: red)	
	Ambient operating temperature		Refer to the derating curve in Engineering Da	ta on page 9 (with no icing or condensation	
	Storage temperature		-25 to 65°C (with no icing or condensation)		
	Ambient operating humidity		25% to 85% (Storage humidity: 25% to 90%	6)	
	Dielectric strength		3.0 kVAC for 1 min. (between all inputs and outputs; detection current: 25 mA) 2.0 kVAC for 1 min. (between all inputs and PE terminals; detection current: 25 mA) 1.0 kVAC for 1 min. (between all outputs and PE terminals; detection current: 25 mA)		
	Insulation resistance		100 M $\Omega$ min. (between all outputs and all inputs/PE terminals) at 500 VDC		
	Vibration resistance		10 to 55 Hz, 0.375-mm single amplitude for 2h each in X, Y, and Z directions		
	Shock resistance		150m/s², 3 times each in ±X, ±Y, ±Z directions		
	Output indicator		Yes (Color: Green)		
	ЕМІ	Conducted Emissions *3	Conforms to EN 55011 Group 1 Class A and based on FCC Class A		
	EIVII	Radiated Emissions	Conforms to EN 55011 Group 1 Class A		
Other		Electrostatic Discharge	Confirms to EN61000-4-2		
		Radiated Electromagnetic Field	Confirms to EN61000-4-3		
	EMS	Electrical Fast Transient/Burst	Confirms to EN61000-4-4		
	LIVIO	Surge	Confirms to EN61000-4-5		
		Conducted Disturbance	Confirms to EN61000-4-6		
	Voltage Dips/Short Interruptions		Confirms to EN61000-4-11		
			UL 508 (Recognition), UL 60950-1		
	Approved standards		cUL: CSA C22.2 No.107.1 cUR: CSA C22.2 No. 60950-1		
			EN/VDE: EN50178 (= VDE 0160), EN 60950-1 (= VDE 0805 Teil 1) (Terminal block: Based on DIN50274 (VDE 0660-514))		
	SEMI		SEMI F47-0200 (200-VAC input)		
	Weight *8		1,600 g max. 2,500 g max.		

- \*1. When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the Power Supply may not start. Refer to Overload Protection on page 11.
- \*2. 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. **\*3.** Rated input voltage: 100 or 200 VAC at 100% load.
- **\*4.** Output characteristics: Specified at power supply output terminals.
- \*5. 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 load is not damaged.
- \*6. For details, refer to Overload Protection on page 11.
- \*7. To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON.
- **\*8.** The weight indicated is for Front-mounting, Open-frame Power Supplies.
- \*9. The protection-ON alarm indicator will light as soon as the output is interrupted. For resetting, turn OFF the input power, leave for more than three minutes, and then turn it back ON again.

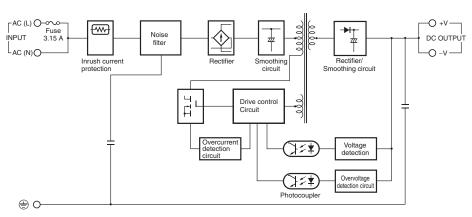
#### **Connections**

#### **Block Diagrams**

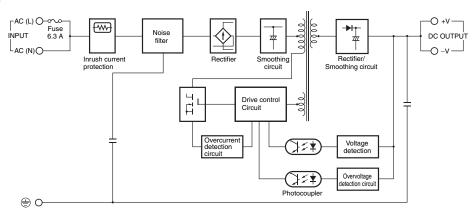
S8JX-G015 (15 W)



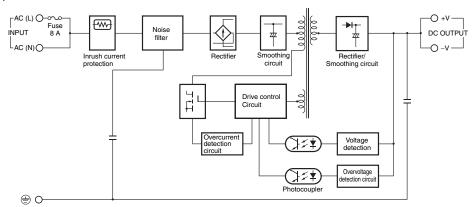
S8JX-G035 (35 W)



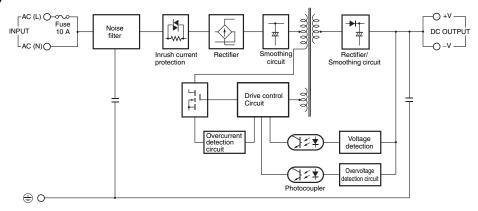
S8JX-G050 (50 W)



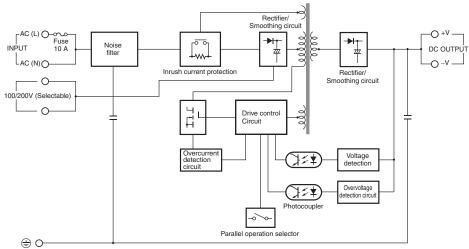
S8JX-G100□□□ (100 W)



#### S8JX-G15024□□ (150 W)

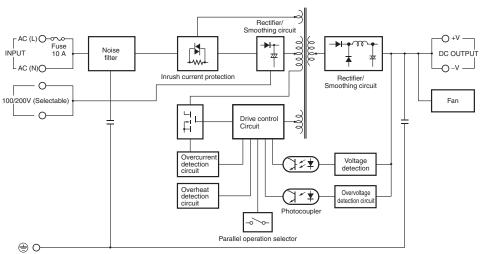


#### S8JX-G30024□□ (300 W)



Note: Short-circuit the input voltage selector terminals if the input is 100 to 120 VAC. Keep the terminals open if the input is 200 to 240 VAC.

#### S8JX-G60024□□ (600 W)

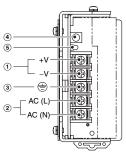


Note: Short-circuit the input voltage selector terminals if the input is 100 to 120 VAC. Keep the terminals open if the input is 200 to 240 VAC.

#### **Construction and Nomenclature**

#### **Nomenclature**

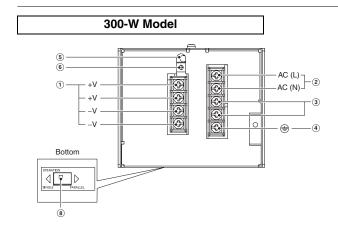
#### 15-/35-/50-/100-/150-W Models

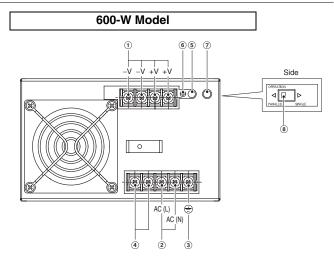


No.	Name	Function
1	DC Output Terminals (-V), (+V)	Connect the load lines to these terminals.
2	AC Input Terminals (L), (N)	Connect the input lines to these terminals. *1
3	Protective Earth Terminal (PE) ( )	Connect the ground line to these terminals. *2
4	Output Voltage Adjuster (V. ADJ)	Use to adjust the voltage.
5	Output Indicator (DC ON: Green)	Lights green while a direct current (DC) output is ON.

- $\pmb{*1.}$  The fuse is located on the (L) side. It is NOT user-replaceable.
- \*2. This is the protective earth terminal specified in the safety standards. Always ground this terminal.

Note: The S8JX-G05024CD is shown above.





No.	Name	Function
1	DC Output Terminals (+V), (-V)	Connect the load lines to these terminals.
2	AC Input Terminals (L), (N)	Connect the input lines to these terminals. *1
3	Protective Earthing Terminal ( )	Connect the ground line to these terminals. *2
4	Input Voltage Selector Terminals	Short-circuit the terminals if the input is 100 to 120 VAC and open the terminals if the input is 200 to 230 VAC.
5	Output Indicator (DC ON: Green)	Lights while a Direct Current (DC) output is ON.
6	Output Voltage Adjuster (V. ADJ)	It is possible to increase or decrease the output voltage.
7	Protection-ON Alarm Indicator (DC ON: Red)	The red indicator will be lit if the overvoltage (for a 600-W model) or overheat protection (for a 600-W model) circuit is triggered. This indicator will also be lit when overload (for a 600-W model) is detected.
8	Selector of Parallel Operation	Set the selector to PARALLEL if the Units are in parallel operation.

- **\*1.** The fuse is located on the (L) side. It is NOT user-replaceable.
- \*2. This is the protective earth terminal specified in the safety standards. Always ground this terminal.

#### **Reference Values**

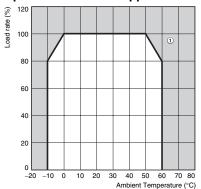
Reliability (MTBF)	Value
Tiellability (WTDI)	250,000 hrs
Definition	MTBF stands for Mean Time Between Failures, which is calculated according to the probability of accidental device failures, and indicates reliability of devices.  Therefore, it does not necessarily represent a life of the product.
Life 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.

#### **Engineering Data**

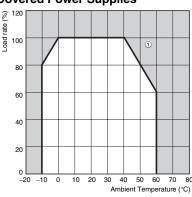
#### **Derating Curves (Standard Mounting)**

#### 15-/35-/50-/100-/150-W Models

#### **Open-frame Power Supplies**



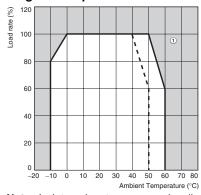
#### **Covered Power Supplies**



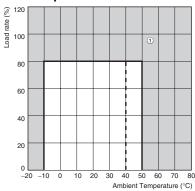
- **Note: 1.** Internal parts may occasionally deteriorate or be damaged. Do not use the Power Supply in areas outside the derating curve (i.e., the area shown by shading ① in the above graph).
  - 2. If there is a derating problem, use forced air-cooling.

#### 300-/600-W Models

#### **Single Unit Operation**



#### **Parallel Operation**



Solid line Front-mounting,
Bottom-mounting,
DIN Rail mounting,
Side mounting (600W)

---- Dotted line Side mounting (300W)

Note: 1. Internal parts may occasionally deteriorate or be damaged. Do not use the Power Supply in areas outside the derating curve (i.e., the area shown by shading ① in the above graph).

2. If there is a derating problem, use forced air-cooling.

#### Mounting

#### 15-/35-/50-/100-/150-W Models

The following three mounting methods are possible.

A. Front-mounting: Refer to Mounting Bracket Provided with Front-mounting Power Supplies @ on page 14.

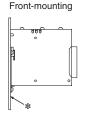
B. Bottom-mounting

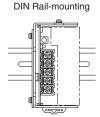
C. Side-mounting

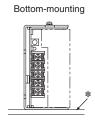
Note: Additional mounting methods are also available using DIN Rail-mounting models.

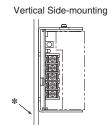
#### **Standard Mounting**

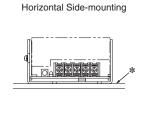
#### 15-/35-/50-/100-/150-W Models





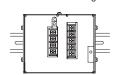






- **Note: 1.** Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the standard mounting method only.
  - 2. When mounting the Power Supply, mounting it to a metal plate (\*) is recommended.
  - 3. Install the Power Supply so that the air flow circulates around the Power Supply, as the Power Supply is designed to radiate heat by means of natural air flow.

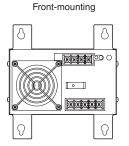
# Front-mounting Bottom-mounting Side-mounting Side-mounting

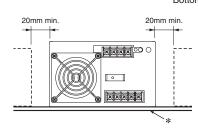


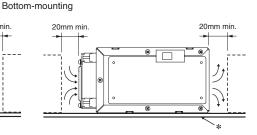
DIN Rail mounting

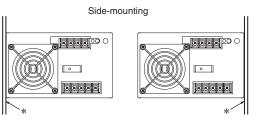
- **Note: 1.** Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the standard mounting method only.
  - 2. When mounting the Power Supply, mounting it to a metal plate (\*) is recommended.
  - 3. Install the Power Supply so that the air flow circulates around the Power Supply, as the Power Supply is designed to radiate heat by means of natural air flow.

#### 600-W Model







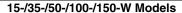


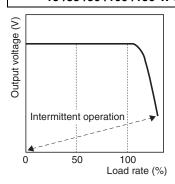
- Note: 1. Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the standard mounting method only
  - 2. When mounting the Power Supply, mounting it to a metal plate (\*) is recommended.
  - Install the Power Supply so that the air flow circulates around the Power Supply, as the Power Supply is designed to radiate heat by means of natural air flow.

#### **Overload Protection**

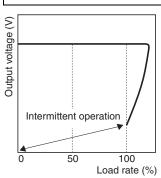
The Power Supply is provided with an overload protection function that protects the power supply from possible damage by overcurrent. When the output current rises above 105% min. of the rated current, the protection function is triggered, decreasing the output voltage. When the output current falls within the rated range, the overload protection function is automatically cleared.

#### (Reference value)

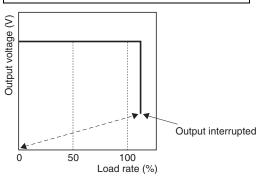








#### 600-W Model



If an excessive current flows for 5 s or more, the output will be turned OFF and simultaneously the protection-ON alarm indicator will be lit. To reset the S8JX, turn OFF the power, leave the S8JX for at least three minutes, and then turn it ON again.

- Note: 1. When a load is connected that has a built-in DC-DC converter, the overload protection may operate at startup and the power supply may not start.
  - Internal parts may occasionally deteriorate or be damaged if a short-circuited or overcurrent 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.

#### **Overvoltage Protection**

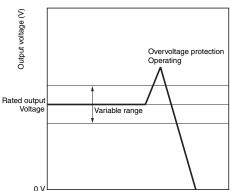
#### 15-/35-/50-/100-/150-W Models

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. When an excessive voltage that is approximately 130% of the rated voltage or more is output, the output voltage is shut OFF, preventing damage to the load due to overvoltage. Reset the input power by turning it OFF for at least seven minutes and then turning it back ON again.

#### 300-/600-W Models

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. When an excessive voltage that is approximately 130% of the rated voltage or more is output, the output voltage is shut OFF, preventing damage to the load due to overvoltage. Reset the input power by turning it OFF for at least seven minute and then turning it back ON again.

#### (Reference value)



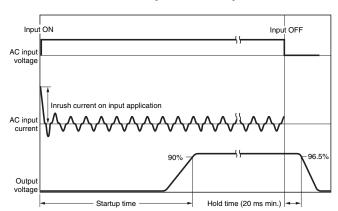
Note: Do not turn ON the power again until the cause of the overvoltage has been removed.

#### **Overheat Protection**

#### 600-W Model

If the internal temperature rises excessively as a result of fan failure or any other reason, the overheat protection circuit will be triggered to protect the internal parts and simultaneously the protection-ON alarm indicator will be lit. Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.

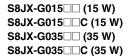
#### Inrush Current, Startup Time, Output Hold Time



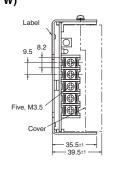
**Note:** A maximum startup time of 500 ms is required. Construct a system configuration that considers the startup time of other devices.

**Dimensions** (Unit: mm)

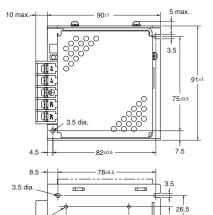
#### **Front-mounting Models**







Two, M3 (Depth 4 mm max.)

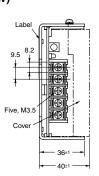


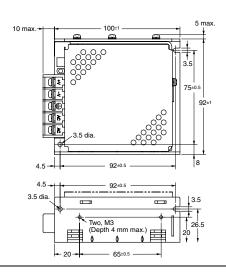
#### Panel mounting holes dimensions

	Surface screw mounting
Side Mounting	Two, M3 7550.5 82±0.5
Bottom Mounting	Two, M3

S8JX-G050□□ (50 W) S8JX-G050□□C (50 W)





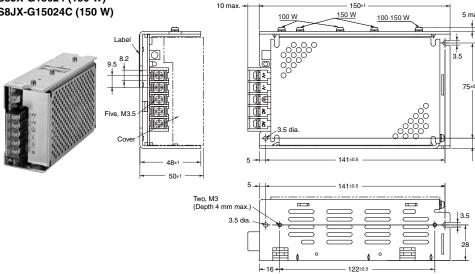


#### Panel mounting holes dimensions

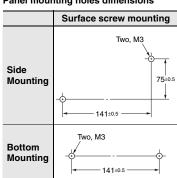
	Surface screw mounting
Side Mounting	Two, M3 75:0.5
Bottom Mounting	Two, M3

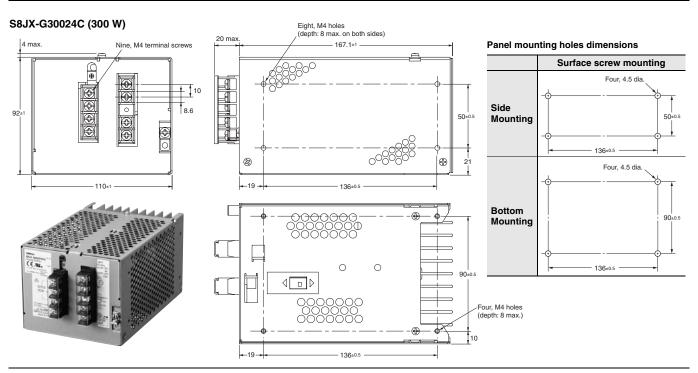
S8JX-G100□□ (100 W) S8JX-G100□□C (100 W)

S8JX-G15024 (150 W) S8JX-G15024C (150 W)

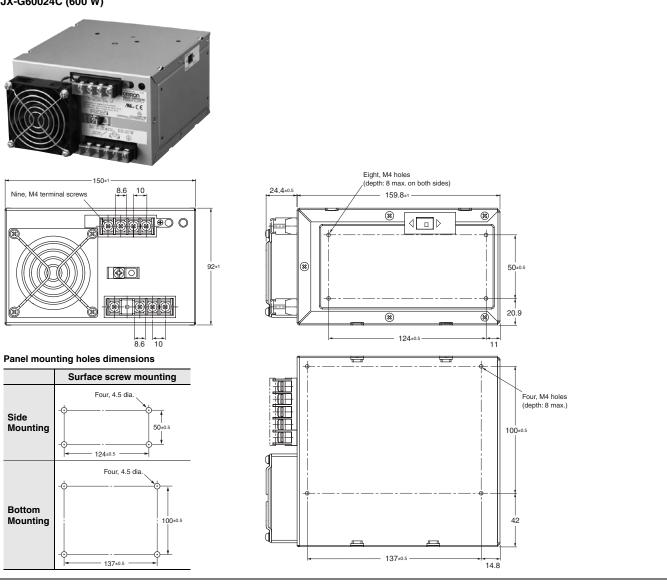


#### Panel mounting holes dimensions





#### S8JX-G60024C (600 W)



#### Mounting Bracket Provided with Front-mounting Power Supplies (A)

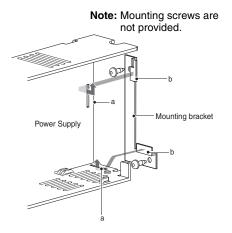
15-/35-/50-/100-/150-W Models

#### **Front-mounting Bracket**

## 

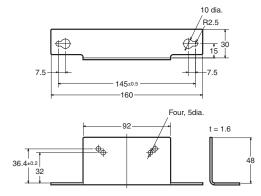
#### **Front-mounting Method**

Temporarily attach the enclosed mounting bracket as shown in the illustration on the right, hook the holes (parts a) in the Power Supply on hooks on the mounting bracket (parts b), and secure the Power Supply with two mounting screws.



#### 300-/600-W Models

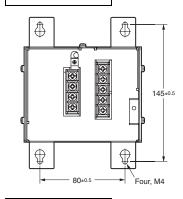
#### **Front-mounting Bracket**



**Note:** Mounting Brackets are provided in a set, one for the right side and one for the left side.

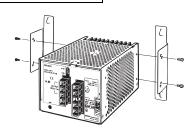
# **Dimensions with Mounting Brackets**

#### 300-W Model



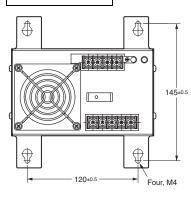
#### **Attaching the Mounting Brackets**

#### 300-W Model

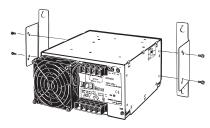


Note: To provide ventilation space, the body will shift forward by 21.6 mm from the mounting surface.

#### 600-W Model

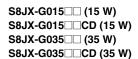


#### 600-W Model

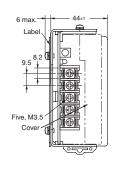


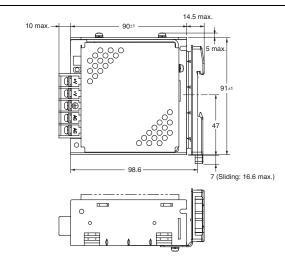
Note: To provide ventilation space, the body will shift forward by 23.6 mm from the mounting surface.

#### **DIN Rail-mounting Models**



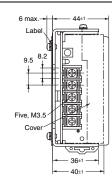


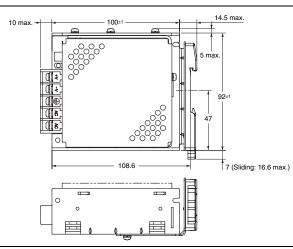




S8JX-G050□□D (50 W) S8JX-G050□□CD (50 W)

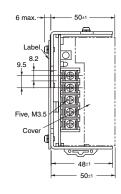


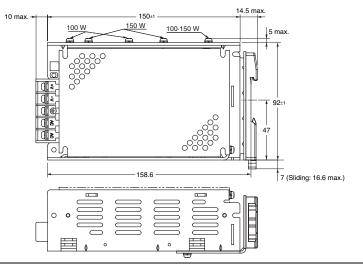




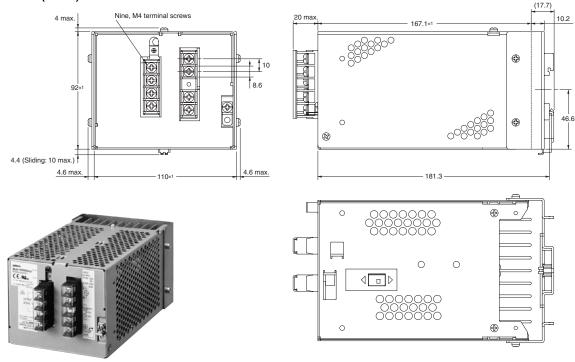
S8JX-G100□□D (100 W) S8JX-G100□□CD (100 W) S8JX-G15024D (150 W) S8JX-G15024CD (150 W)

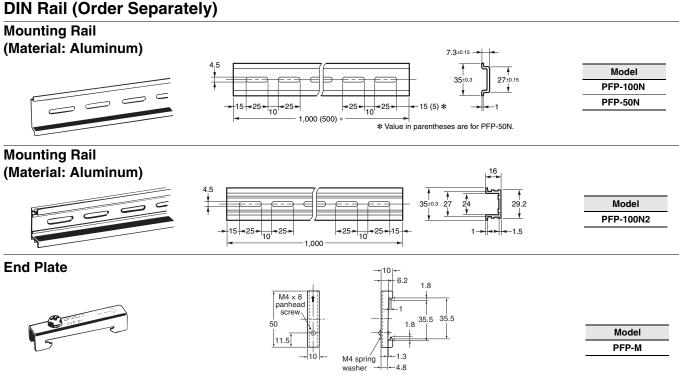






#### S8JX-G30024CD (300 W)





Note: 1. 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.

2. If the Unit may be subjected to sliding to either side, attach an End Plate (model PFP-M) on each side of the Unit.

#### **Safety Precautions**

#### Refer to Safety Precautions for All Power Supplies.

#### **CAUTION**

Minor electric shock, fire, or Product failure may occasionally occur. Do not disassemble, modify, or repair the Product to 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 of 1.13 N·m.



Minor injury due to electric shock may occasionally occur. Do not touch the terminals while power is being supplied. Always close the terminal cover after wiring.



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.



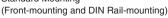
#### **Precautions for Safe Use**

#### Mounting

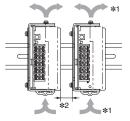
- Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Product.
- Be sure to allow convection in the atmosphere around devices when mounting. Do not use in locations where the ambient temperature exceeds the range of the derating curve. (except 600 W)
- The S8JX-□60024□ is designed to radiate heat by means of forced air-flow. Do not cover the air holes (provided at fan mounted side and the opposite side) to have enough air-cooling.
- The screws must not protrude more than 8 mm inside the Power Supply when screw holes provided on the chassis are used. (300
- Mounting screw tightening torque (recommended value): 0.54 N·m.
- Rear mounting is possible using provided mounting bracket.
- When cutting out holes for mounting, make sure that cuttings do not enter the interior of the Products.
- · Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the standard mounting method only.
- The internal parts may occasionally deteriorate and be broken due to adverse heat radiation. Do not loosen the screw on the side face of the main body.
- When mounting two or more Power Supplies side-by-side, allow at least 20 mm spacing between them.
- Provide a space of at least 20 mm back and forth when mounting 300-W and 600-W models as well.
- Use the metal plate as the mounting panel.

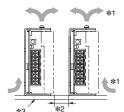
#### 15-/35-/50-/100-/150-W Models

Standard Mounting

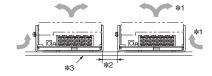


Standard Mounting (Bottom-mounting)



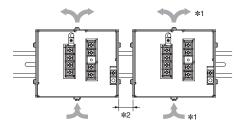


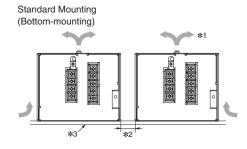
Standard Mounting (Horizontal Mounting)



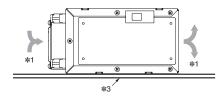
#### 300-W Model

Standard Mounting (Front-mounting and DIN Rail-mounting)





#### 600-W Model



- \*1. Convection of air
- \*2.20 mm max.
- **\*3.** Use a metal plate as the mounting surface.

#### 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 75 N force to the terminal block when tightening it.
- Be sure to remove the sheet covering the Product 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 S8JX to prevent smoking or ignition caused by abnormal loads.

#### **Recommended Wire Type**

15 W, 35 W	AWG12 to AWG20 (a cross section of 0.517 to 3.309 mm²) UL-certified temperature of a t least 75°C
50W, 100W, 150 W	AWG12 to AWG16 (a cross section of 1.309 to 3.309 mm²) UL-certified temperature of a t least 60°C or 60/75°C
300 W, 600 W	AWG12 to AWG20 (a cross section of 0.517 to 3.309 mm²) UL-certified temperature of a t least 60°C or 60/75°C

#### **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 contactors or other devices that are a vibration source
- Install the Power Supply well away from any sources of strong, high-frequency noise and surge.

#### **Ambient Operating and Storage Environments**

- Store the Power Supply at a temperature of –25 to 65°C and a humidity of 25% to 90%.
- The Internal parts may occasionally deteriorate or be damaged.
   Do not use the Power Supply outside the derating range (i.e., the area shown by shading 1) in the derating curve diagram on page 9.)
- Use the Power Supply at a humidity of 25% to 85%.
- Do not use the Power Supply in locations subject to direct sunlight.
- Do not use locations where liquids, foreign matter, or corrosive gases may enter the interior of the Product.

#### **Overload Protection**

- Internal parts may possibly deteriorate or be damaged if a shortcircuited or overload 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.

#### Charging a Battery

When connecting a battery at the load, connect an overcurrent limiting circuit and overvoltage protection circuit.

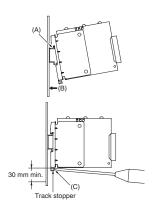
#### Output Voltage Adjuster (V.ADJ)

- 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.

#### **DIN Rail-mounting**

To mount the Power Supply to a DIN Rail, pull down the rail stopper until you hear it clicks open, hook portion (A) of the Power Supply onto the DIN Rail, press the Power Supply in direction (B), and then push up the rail stopper to lock the Power Supply in place.

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

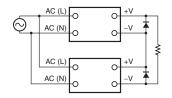


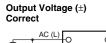
#### **Series Operation**

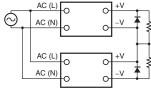
Two power supplies can be connected in series. The  $(\pm)$  voltage output can be accomplished with two Power Supplies.

# Series Operation

Correct







Note: 1. 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.

Туре	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the rated output voltage or above
Forward current (IF)	Twice the rated output current or above

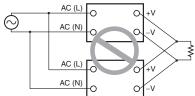
Although Products having different specifications can be connected in series, the current flowing through the load must not exceed the smaller rated output current.

#### **Parallel Operation**

#### 15-/35-/50-/100-/150-W Models

The Product is not designed for parallel operation.

#### Parallel Operation



#### 300-/600-W Models

Parallel operation is possible under 80% of the rated value.

- To operate in parallel, set the switch to the "PARALLEL" side.
- The length and thickness of each wire connected to the load must be the same so that there is no difference in voltage drop value between the load and the output terminals of each Power Supply.
- It is desirable to set the same value on the voltage adjuster of each Power Supply.

#### Parallel Operation Correct

AC (L) O O +V

AC (N) O O +V

AC (N) O O +V

#### In Case There Is No Output Voltage

The possible cause for no output voltage may be that the overcurrent or overvoltage protection has operated. The internal protection may operate if a large amount of surge voltage such as a lightening surge occurs while turning ON the Power Supply.

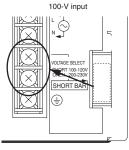
In case there is no output voltage, please check the following points before contacting us:

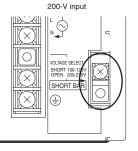
- Checking overcurrent protected status:
   Check whether the load is in overcurrent status or is short-circuited. Remove wires to load when checking.
- Checking overvoltage or internal protection:
   Turn the power supply OFF once, and leave it OFF for at least
   7 minutes. Then turn it ON again to see if this clears the condition.

#### Switching the AC Input Voltage between 100 and 200 VAC

#### 300-/600-W Models

The input voltage can be switched between 100 and 200 V by shorting or opening the input voltage selection terminals. Set the required voltage as shown below. (The voltage is factory-set to 200 V.)





Short with the short bar.

Remove the short bar and leave the terminals open.

Note: A 300-W model is shown above.

#### Fan Replacement

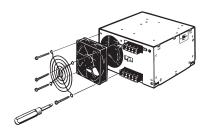
#### 600-W Model

The service life of the fan is approximately 50,000 hours (at 25°C). The service life varies, however, depending on the ambient temperature or other surrounding environmental conditions such as dust. As a preventive maintenance measure, replace the fan within approx. two years if it is used at an ambient temperature of 40°C. Fans are available as replacements.



Fan Set:

Fan (above), four M4 x 35 sems screws, instruction sheet, and packing case Replace the fan as shown in the following illustration.



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In the interest of product improvement, specifications are subject to change without notice.

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