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OMRON

Switch Mode Power Supply
S8JX-P (300/600-W Models)

S8JX-P Series with EMI ClassB and Power Factor Correction is newly added to S8JX Series.

- Limits for harmonic current emissions (conforms to EN61000-3-2)
- Conforms to EMI EN55011 Class B
- Applicable to input free voltage: 100 to 240 VAC
- Extended DC input voltage range: 80 to 370 VDC
  ✻ DC input is not subject to EC directives and safety standards.
- Easy mounting: Front-mounting bracket type and DIN-Rail mounting type are included as standard with the product.
- Safety standards
  - UL508/60950-1, cUL CSA C22.2 No.107.1, cUR CSA C22.2 No.60950-1
  - EN50178 (=VDE0160) Over voltage category III EN60950-1 (=VDE0805 Teil1)
- High capacity application-covered functions are included as standard with the product.
- Alarm detection function, Remote control function, Remote sensing function



⚠ Refer to *Safety Precautions* on page 13.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Model Number Structure

Model Number Legend

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

S8JX-P□□□□□□
1 2 3

1. Power Ratings
300: 300 W
600: 600 W

2. Output Voltage
05: 5V
12: 12 V
24: 24 V
48: 48 V

3. Configuration/mounting (covered type)
C: Front-mounting
CD: DIN Rail-mounting
N: Without mounting bracket

Note: Estimates can be provided for coatings and other specifications that are not given in the datasheet. Ask your OMRON representative for details.

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S8JX-P

Ordering Information

List of Models

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

DIN Rail-mounting



Configuration	Input voltage	Power ratings	Output voltage (VDC)	Output current	Built-in fan	Model
Covered Power Supplies	100 to 240 VAC (free) (80 to 370 VDC ✻)	300 W	5 V	60 A	Yes	**S8JX-P30005CD**
			12 V	27 A		**S8JX-P30012CD**
			24 V	14 A peak current 16.5 A (200 VAC)		**S8JX-P30024CD**
			48 V	7 A		**S8JX-P30048CD**
		600 W	5 V	120 A		**S8JX-P60005CD**
			12 V	53 A		**S8JX-P60012CD**
			24 V	27 A peak current 31 A (200 VAC)		**S8JX-P60024CD**
			48 V	13 A		**S8JX-P60048CD**

✻ The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 240 VAC (85 to 264 VAC).

Front-mounting



Configuration	Input voltage	Power ratings	Output voltage (VDC)	Output current	Built-in fan	Front-mounting bracket	Model
Covered Power Supplies	100 to 240 VAC (free) (80 to 370 VDC ✻)	300 W	5 V	60 A	Yes	Provided	**S8JX-P30005C**
			12 V	27 A			**S8JX-P30012C**
			24 V	14 A peak current 16.5 A (200 VAC)			**S8JX-P30024C**
			48 V	7 A			**S8JX-P30048C**
		600 W	5 V	120 A			**S8JX-P60005C**
			12 V	53 A			**S8JX-P60012C**
			24 V	27 A peak current 31 A (200 VAC)			**S8JX-P60024C**
			48 V	13 A			**S8JX-P60048C**
		300 W	5 V	60 A		No	**S8JX-P30005N**
			12 V	27 A			**S8JX-P30012N**
			24 V	14 A peak current 16.5 A (200 VAC)			**S8JX-P30024N**
			48 V	7 A			**S8JX-P30048N**
		600 W	5 V	120 A			**S8JX-P60005N**
			12 V	53 A			**S8JX-P60012N**
			24 V	27 A peak current 31 A (200 VAC)			**S8JX-P60024N**
			48 V	13 A			**S8JX-P60048N**

✻ The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 240 VAC (85 to 264 VAC).

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Ratings, Characteristics, and Functions

Item			Input specification Power ratings ✻1	100 to 240 V input 300 W	 600 W
Efficiency			5 V models	75% min.	76% min.
			12 V models	77% min.	76% min.
			24 V models	79% min.	78% min.
			48 V models	78% min.	79% min.
Input	Voltage ✻2			100 to 240 VAC (allowable range: 85 to 264 VAC, 80 to 370 VDC ✻8)	
	Frequency ✻2			50/60 Hz (47 to 63 Hz)	
	Current ✻3		100 V input	4.5 A max.	8.7 A max.
			200 V input	2.2 A max.	4.3 A max.
	Power factor			0.9 min.	
	Harmonic current emissions			Conforms to EN61000-3-2	
	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	17.5 A max.	
			200 V input	35 A max.	
Output ✻4	Voltage adjustment range ✻5			−10% to 15% (with V. ADJ) (5 V, 48 V models: ±10%)	
	Ripple ✻3			3% (p-p) max. (5 V) ✻12 2% (p-p) max. (12 V) ✻12 2% (p-p) max. (24 V or 48 V types)	
	Input variation influence			0.4% max.	
	Load variation influence			0.8% max. (0 to 100% load, rated input voltage)	
	Temperature variation influence			0.05%/°C max.	
	Startup time			1,000 ms max.	
	Hold time ✻3			20 ms min.	
Additional functions	Overload protection ✻6			105% to 160% of rated load current, voltage drop, intermittent, automatic reset.	
	Overvoltage protection ✻7			Yes	
	Overheat protection			Yes	
	Parallel operation			Yes (up to 5 Power Supplies)	
	Series operation			Yes (For up to two Power Supplies; external diodes required.)	
	Remote sensing			Supported	
	Remote control			Supported	
	Alarm detection indication			Yes (color: red)	
	Alarm output			Provided, open-collector output, 30 VDC max, 50 mA max.	
Other	Ambient operating temperature			Refer to the derating curve in *Engineering Data* on page 6 (with no icing or condensation).	
	Storage temperature			−25 to 75°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: 100 mA) 100 VAC for 1 min. (between all outputs and RC terminals; detection current: 100 mA) 500 VAC for 1 min. (between all outputs and ALM terminals; detection current: 20 mA)	
	Insulation resistance			100 MΩ min. (between all outputs and all inputs/PE terminals) at 500 VDC	
	Vibration resistance			10 to 55 Hz, 0.375-mm single amplitude for 2 h each in X, Y, and Z directions	
	Shock resistance			150 m/s^2, 3 times each in ±X, ±Y, ±Z directions ✻10	
	Output indicator			Yes (Color: Green)	
	EMI		Conducted Emissions ✻3	Conforms to EN 55011 Group 1 Class B and based on FCC Class B ✻11	
			Radiated Emissions	Conforms to EN 55011 Group 1 Class B ✻11	
	EMS		Electrostatic Discharge	Conforms to EN61000-4-2	
			Radiated Electromagnetic Field	Conforms to EN61000-4-3	
			Electrical Fast Transient/Burst	Conforms to EN61000-4-4	
			Surge	Conforms to EN61000-4-5	
			Conducted Disturbance	Conforms to EN61000-4-6	
			Voltage Dips/Short Interruptions	Conforms to EN61000-4-11	
	Approved standards ✻8			UL UR: UL 508 (Recognition) ✻13 UL Listed: UL508 (Listing) ✻14 UL UR: UL 60950-1 (Recognition)	
				cUR: CSA C22.2 No.107.1, CSA C22.2 No. 60950-1	
				EN/VDE: EN50178 (= VDE 0160) Over voltage category III, EN 60950-1 (= VDE 0805 Teil 1) (Terminal block: Based on DIN 50274 (VDE 0660-514))	
	SEMI			SEMI F47-0706 (200-VAC input)	
	Weight			1,200 g max. ✻9	1,800 g max. ✻9

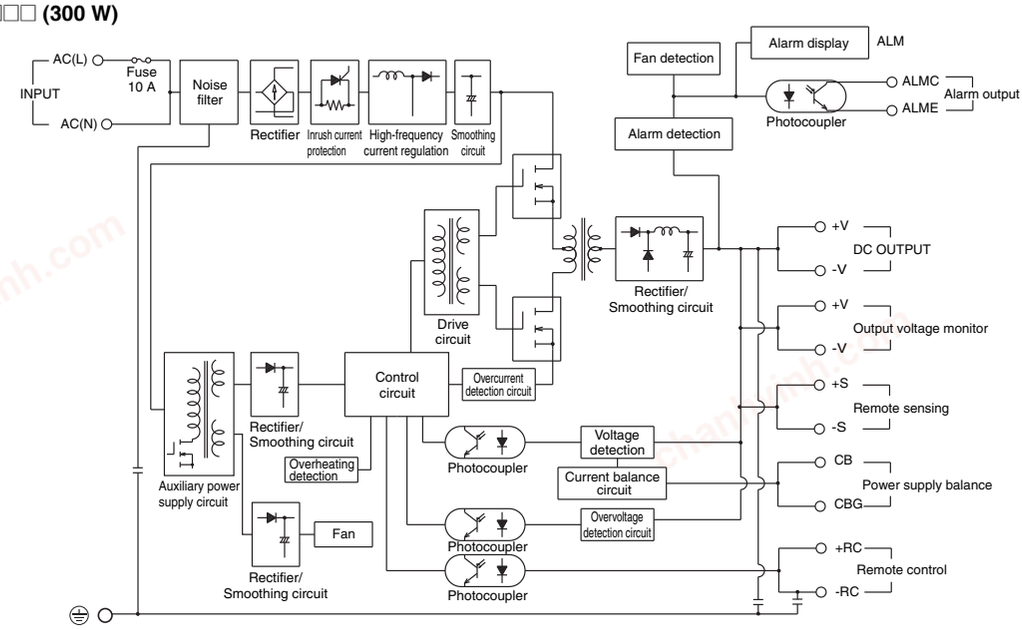
S8JX-P

∗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 7.
∗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 the allowable voltage 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 7.
∗7. To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON.
∗8. The range for compliance with EC Directives and safety standards (UL, EN, etc.) is 100 to 240 VAC (85 to 264 VAC).
∗9. The weight is of the type without a mounting bracket.
∗10. S8JX-P600□□CD: 100 m/s^2
∗11. The noise value will vary depending on wiring methods and other characteristics.
300-W/600-W models conform to Class B with an aluminum plate set under the product.
For the 300-W 5V and 600-W 5V and 12V models, insert a noise filter (TDK-Lambda RSEN-2016) in the input line.
∗12. Measurement method conform to RC-9131A of the JEITA standards. For details, refer to *Ripple Noise Voltage* on page 14.
∗13. Applicable to the 300-W/600-W 5V and 12V models
∗14. Applicable to the 300-W/600-W 24V and 48V models

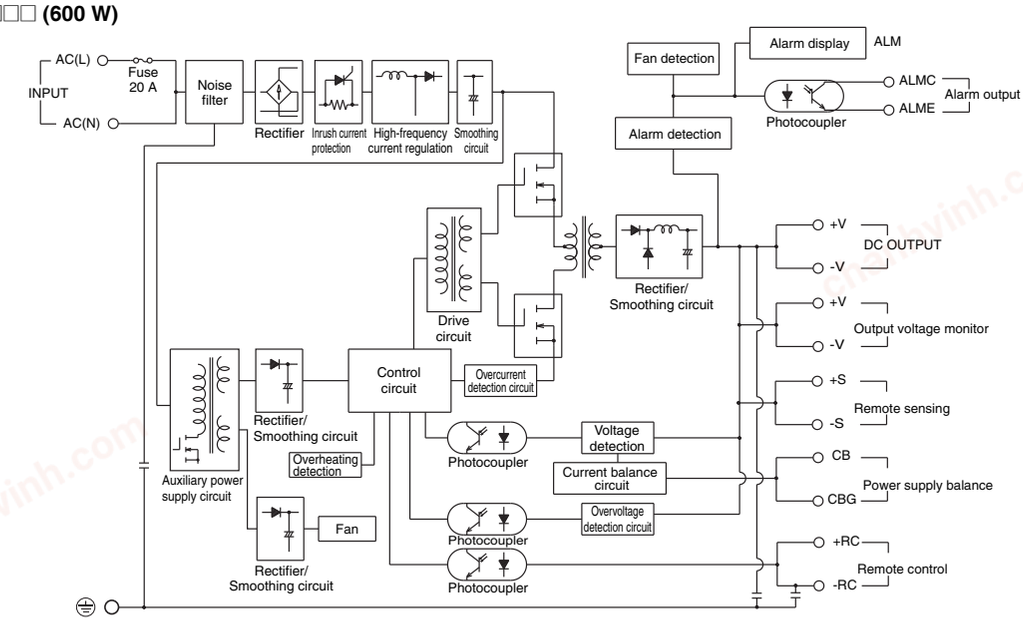
Connections

Block Diagrams

S8JX-P300□□□□ (300 W)



S8JX-P600□□□□ (600 W)

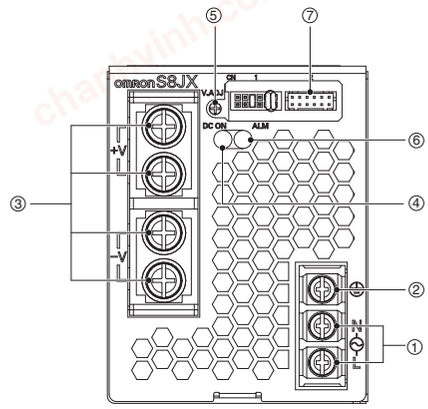


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Construction and Nomenclature

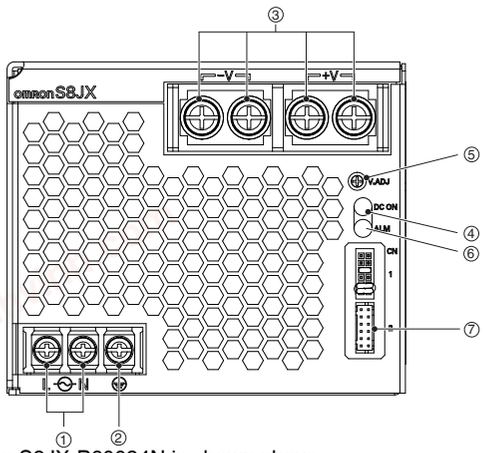
Nomenclature

300-W Models

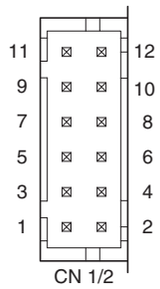


Note: The S8JX-P30024N is shown above.

600-W Models



Note: The S8JX-P60024N is shown above.

No.	Name	Function
1	Input Terminals (L), (N)	Connect the input lines to these terminals. ✻1
2	Protective Earth Terminal (PE) (⏚)	Connect the ground line to these terminals. ✻2
3	DC Output Terminals (–V), (+V)	Connect the load lines to these terminals.
4	Output Indicator (DC ON: Green)	Lights green while a direct current (DC) output is ON.
5	Output Voltage Adjuster (V. ADJ)	It is possible to increase or decrease the output voltage.
6	Alarm indicator (ALM: Red)	This lamp lights up at the time of output voltage deterioration or fan stoppage, and in standby mode by remote control function.
7	Signal output connector ✻3  CN 1/2	1: Output voltage monitor terminal (+V) 2: Remote sensing terminal (+S) 3: Output voltage monitor terminal (-V) 4: Remote sensing terminal (-S) 5: Current balance terminal (CB) 6: Current balance ground terminal (CBG) 7: Remote control terminal (+RC) 8: Remote control terminal (-RC) 9: (Not connected) 10: (Not connected) 11: Alarm detection output terminal (ALMC) (Collector side) 12: Alarm detection output terminal (ALME) (Emitter side)

✻1. The fuse is located on the (L) side. Ensure that the (L) side is set to (+).
✻2. This is a PE (Protective Earth) terminal defined in safety standards and must be grounded.
✻3. Signal input/output connectors are included as standard and implemented in the CN1 before shipment.
In this connector, the circuits of 1-2, 3-4, and 7-8 are shorted. Removal of the connector may deteriorate the output stability and accuracy, so be sure to perform the connection of +S and -S terminals.
Never connect a load to the output voltage monitor terminal (+V, -V).

Reference Values

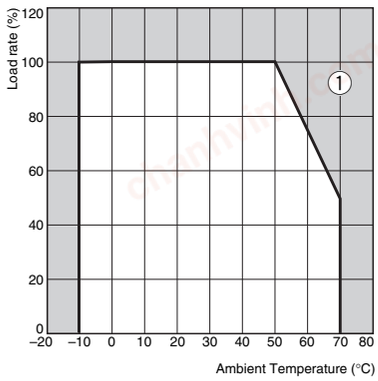
Reliability (MTBF)	300 W: 160,000 hrs 600 W: 150,000 hrs
Definition	MTBF stands for Mean Time Between Failures, which is calculated according to the probability of accidental device failures, and indicates reliability of devices. Therefore, it does not necessarily represent a life of the product.
Life expectancy	10 yrs. min.
Definition	The life expectancy indicates average operating hours under the ambient temperature of 40ºC and a load rate of 50%. Normally this is determined by the life expectancy of the built-in aluminum electrolytic capacitor.

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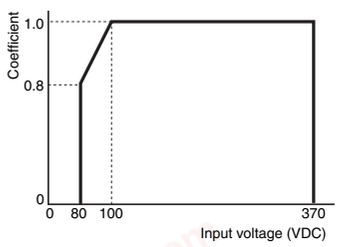
S8JX-P

Engineering Data

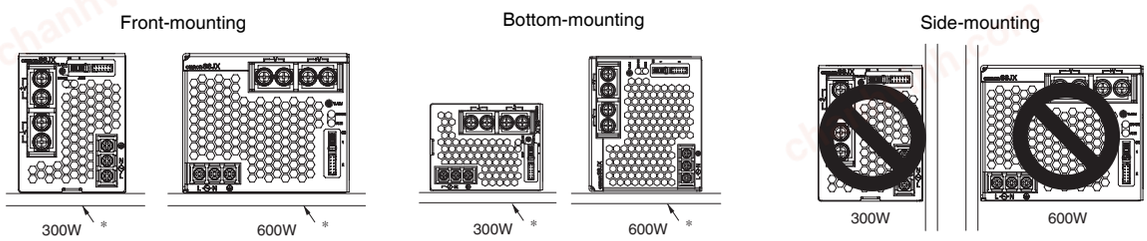
Derating Curves (Standard Mounting)



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. The ambient temperature is defined at a location 50 mm forward from the center of the front surface of the product.
3. (For Customers using 300-/600-W type for a DC Input) Reduce the load calculated with the above derating curve by at least the following coefficients.



Standard Mounting

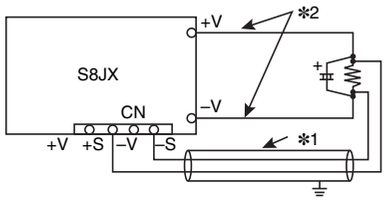


Note: 1. Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the standard mounting method only.
2. When mounting the Power Supply, mounting it to a metal plate (✻) is recommended.
3. Do not cover the air holes (provided at fan mounted side and the opposite side) to have enough air-cooling.

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Remote sensing function

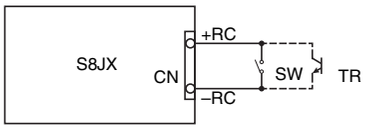
Use this function when it is desirable to automatically compensate for voltage drops in the load line.
The remote sensing function is operated by connecting +S terminal (2 pin on CN) to +side of the load terminal and -S terminal (4 pin on CN) to -side of the load terminal.
When the remote sensing function is not used, using a connector provided as standard enables the connection between +S and +V terminals (1 pin on CN) and between -S and -V terminals (3 pin on CN) respectively.



Note: 1. Use a two-core shield wire for connection line (✻1).
2. If the voltage drop on a load line (✻2) is large, the output voltage of the power supply may rise by the voltage drop amount and activate the overvoltage protection. Therefore, be sure to use as thick a wire as possible.
3. The voltage drop in the load line must be 0.3 V or less.
4. If the load line is long, be sure to use an electrolytic capacitor between the load terminals. As the used electrolytic capacitor may be heated by ripple current due to the connected load, be sure to use an electrolytic capacitor having an allowable ripple current exceeding the used ripple current.
5. Opening status of +S and -S terminals may deteriorate the output stability and accuracy. Therefore, be sure to connect +S and -S terminals.
6. Remove a connector provided as standard and prepare a harness separately.

Remote control function

This function is to turn ON/OFF the output by an external signal using +RC terminal (7 pin on CN) and -RC terminal (8 pin on CN) while input voltage remains applied. To use this function, connect a switch or a transistor to +RC and -RC terminals.
When not in use, use the standard supplied connector to short-circuit +RC and -RC terminals.



Level	Output voltage	Built-in fan
Short or L (0-0.8 V)	ON	Rotation
Open or H (2.4-12 V)	OFF	Stop

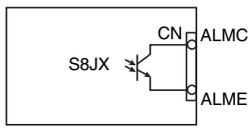
Max. applied voltage: 12 V max., Counter voltage: -1 V max.,
Sink current: 3.5 mA

Note: 1. If counter voltage is applied to remote control terminals, output voltage cannot be turned ON/OFF.
Please remember this when wiring.
2. Use a twist wire or a two-core shield wire for connection line.
3. Remote control circuit is disconnected from input and output circuits.
4. Remove a connector provided as standard and prepare a harness separately.

Alarm detection function

When output voltage drops due to overcurrent protection, overvoltage protection, or overheat protection in operation or input voltage drop, when the built-in fan stops, or when the Power Supply goes standby by remote control, the alarm indicator (LED: red) lights up to indicate the output voltage trouble. In addition, the transistor outputs that outside.

Transistor output: 30 VDC max., 50 mA max.
Residual voltage when the function is ON: 2 V max., leakage current when the function is OFF: 0.1 mA max.
Detection voltage: approximately 80% of the output voltage setting value
When trouble is detected, the transistor output is turned OFF (nonconductive pins 11-12 on CN) and the LED (red) lights up.



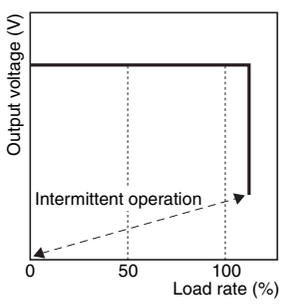
Note: 1. The alarm detection function monitors the voltage at the Power Supply output end. To check an accurate voltage, measure a voltage at the load end.
2. Remove the standard supplied connector and prepare a connector separately.

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% to 160% 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.

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.
2. Internal parts may occasionally deteriorate or be damaged if a short-circuited or overcurrent state continues during operation.
3. 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.

(Reference value)

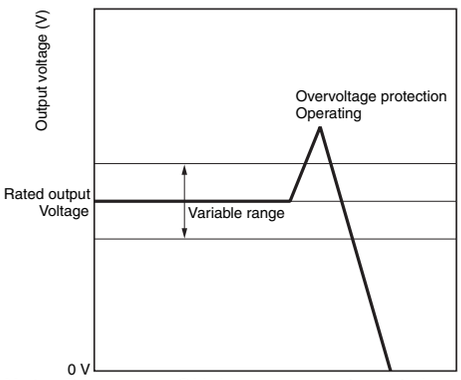


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Overvoltage Protection

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. 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 and simultaneously the alarm indicator will be lit. Reset the input power by turning it OFF for at least three minute and then turning it back ON again.

(Reference value)



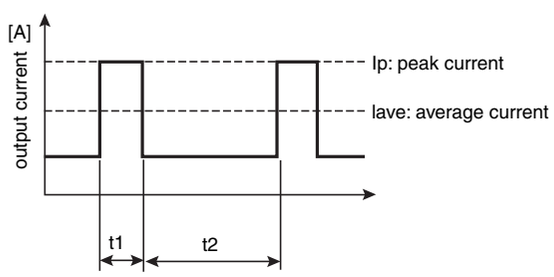
Note: Do not turn ON the power again until the cause of the overvoltage has been removed.

Output peak current (300-W 24V, 600-W 24V Models)

The following conditions should be satisfied for the peak current value.

- t1 ≤ 10 s
- Ip ≤ rated peak current
- Iave ≤ rated current

$$\text{Duty} = \frac{t1}{t1+t2} \times 100\ [\%] \leq 35\%\ (180 \text{ to } 240\ \text{VAC})$$



Note: 1. Do not hold peak load current over 10 seconds.
In addition, you should not use duty cycle under conditions beyond above figure.
It may cause damage in its power supply.

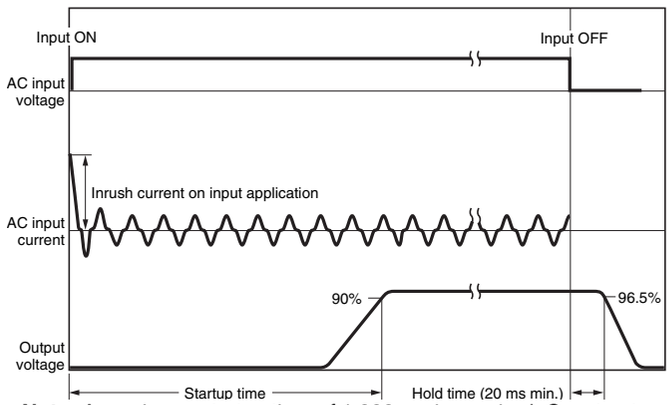
2. Please derate peak load current depending on ambient temperature and mounting orientation.

3. Please keep the average current of peak load cycle from becoming more than the rated value.

Overheat Protection

If the internal temperature 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.
The alarm indicator lights at the same time. 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 1,000 ms is required. Construct a system configuration that considers the startup time of other devices.

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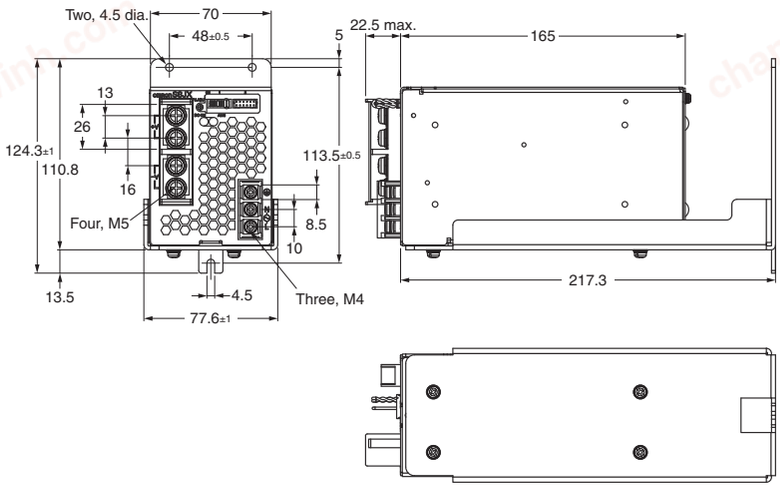
Dimensions

(Unit: mm)

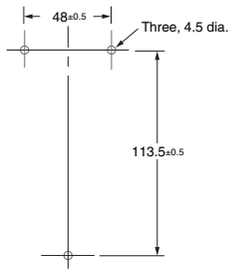
Front-mounting Models

S8JX-P300□□C (300 W)



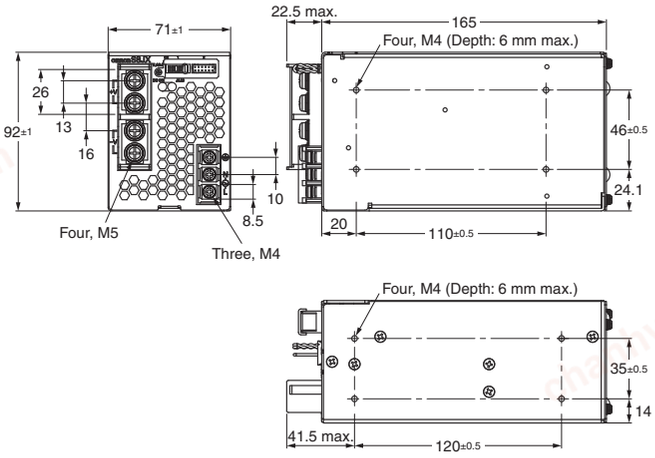


Panel mounting holes dimensions

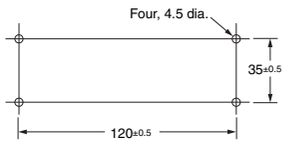
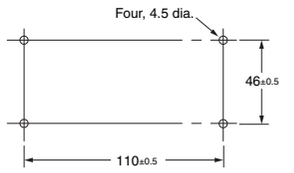
	Rear surface screw mounting
Front Mounting	

S8JX-P300□□N (300 W)



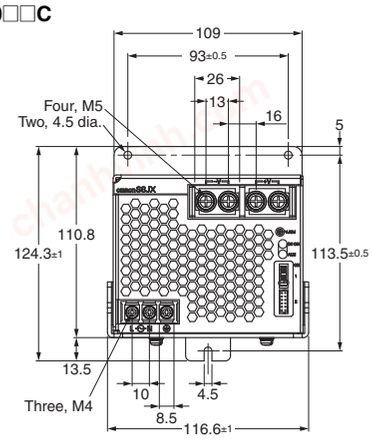


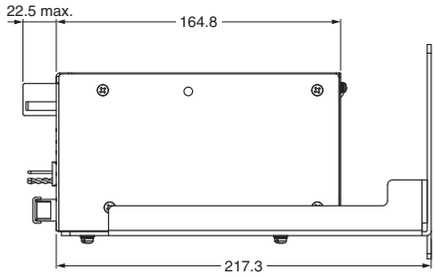
Panel mounting holes dimensions

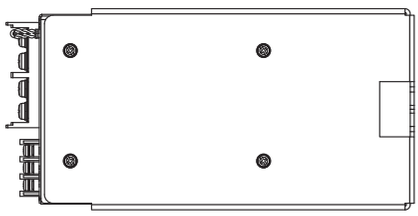
	Rear surface screw mounting
Standard Mounting	
Side Mounting	

S8JX-P

S8JX-P600□□C (600 W)

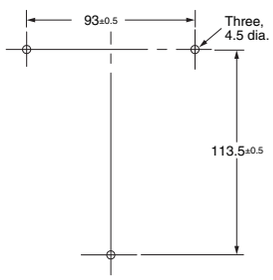






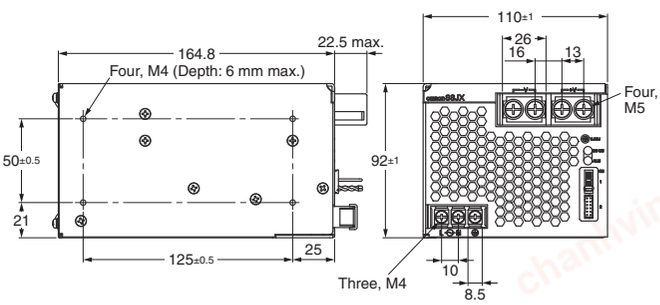


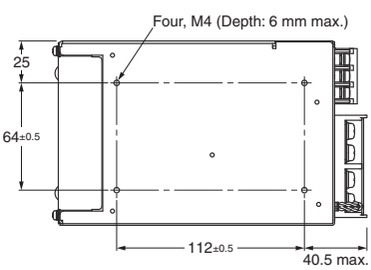
Panel mounting holes dimensions

	Rear surface screw mounting
Front Mounting	

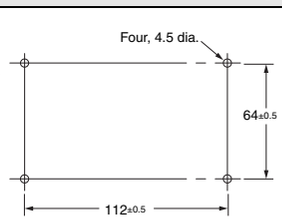
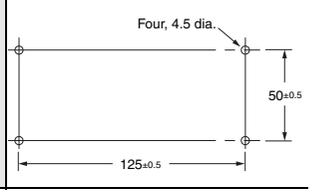
S8JX-P600□□N (600 W)







Panel mounting holes dimensions

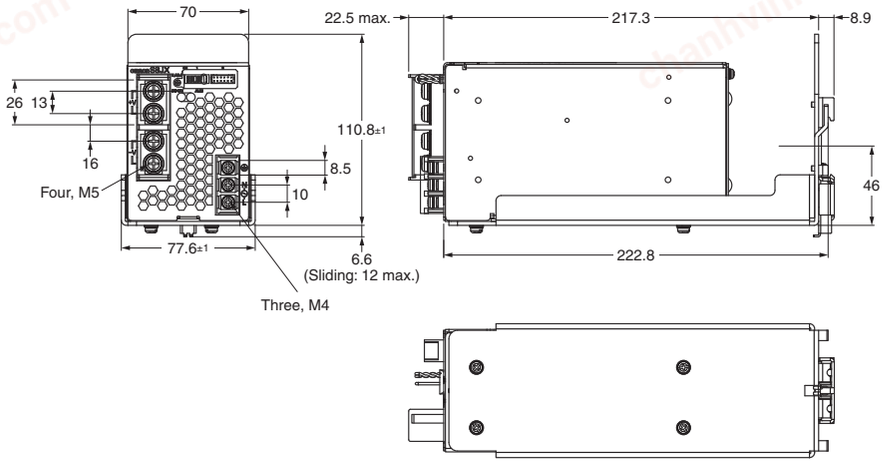
	Rear surface screw mounting
Standard Mounting	
Side Mounting	

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DIN Rail-mounting Models

S8JX-P300□□CD (300 W)

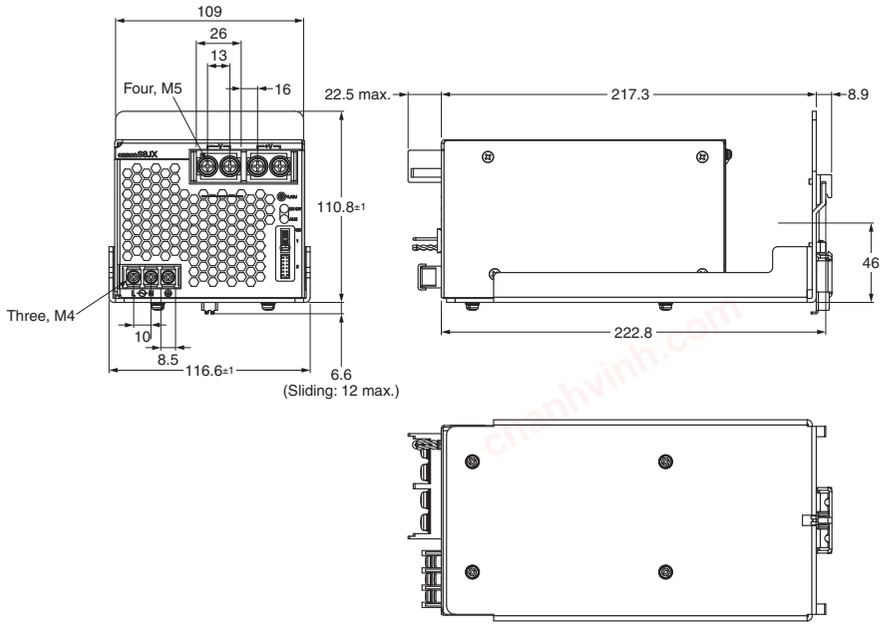




Note: Use a metal DIN Rail when mounting a 300-W model to a DIN Rail.

S8JX-P600□□CD (600 W)





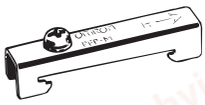
Note: Use a metal DIN Rail when mounting a 600-W model to a DIN Rail.

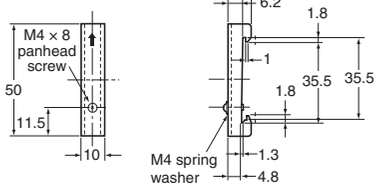
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S8JX-P

DIN Rail (Order Separately)

End Plate





Model
PFP-M

Note: 1. Use a metal DIN Rail when mounting the S8JX-P to a DIN Rail.
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.

Terminal Cover (Order Separately)

Terminal Cover model	Applicable Power Supply and applicable location
S82Y-JX-C4P1	S8JX-P 300 W output side
S82Y-JX-C5P1	S8JX-P 300 W input side

Replacement Fan (sold separately)

Product	Model
Replacement fan unit for 300-W models	**S82Y-JXP30FAN**
Replacement fan unit for 600-W models	**S82Y-JXP60FAN**

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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.
M4:1.13 N·m.
(The DC output terminal of S8JX-G15005□□ and S8JX-P15005:1.56 N·m.)
M5:2.25 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.

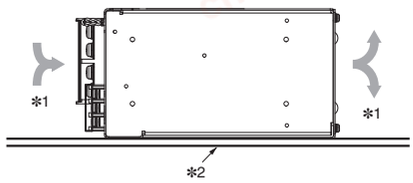


Precautions for Safe Use

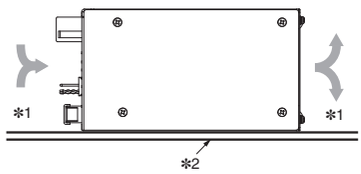
Mounting

- Take adequate measures to ensure proper heat dissipation to increase the long-term reliability of the Product.
- The 300 W, 600 W models of S8JX-P series are 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 beyond the following values inside the Power Supply when screw holes provided on the chassis are used.
  300 W or 600 W of S8JX-P series: 6 mm
  Mounting screw tightening torque (recommended value) : 0.54 N·m.
- Front 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 15 mm for S8JX-P series spacing between them.
- Provide a space of at least 50 mm back and forth for S8JX-P series when mounting 300-W and 600-W models as well.
- Use the metal plate as the mounting panel.

S8JX-P Series 300-W Models



S8JX-P Series 600-W Models



***1.** Convection of air
***2.** 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

S8JX-P series 300 W, 600 W	**Input side**	AWG12 to AWG20 (a cross section of 0.517 to 3.309 mm^2) UL-certified temperature of at least 60°C or 60/75°C
	Output side	AWG6 to AWG20 (a cross section of 0.517 to 13.30 mm^2) UL-certified temperature of at least 60°C or 60/75°C

✻ The rated current for the output terminals on the S8JX-P300□□ and S8JX-P600□□ is 60A for each terminal. Use two terminals together if the current flow is higher than the rated terminal current.

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Method of Manufacturing Connector Harness for Signal I/O

For S8JX-P Series 300-/600-W models, PHD connectors manufactured by JST Mfg. Co., Ltd. should be used.

Connector used	S12B-PHDSS	Manufactured by JST Mfg. Co., Ltd.
Housing	PHDR-12VS	
Terminal	SPHD-001T-P0.5 or BPHD-001T-P0.5	

To ensure correct wiring, the following points should be borne in mind when manufacturing the connector. It is recommended that the JST Mfg. Co., Ltd. catalog be read for further details.

- Electric cable size AWG26 to AWG22 should be used.
- The electric cable sheath stripping length should be approximately 2.3 mm.
- Dedicated tool YC (Manufactured by JST Mfg. Co., Ltd.) should be used for crimping of terminals and wiring.
- Although UL1007 (Twisted wire) and other equivalent twisted wires can be used for electric cables, UL1061 with a small outer sheath shape and equivalent twisted wires should be used for AWG22.
- When accommodating crimped terminal wiring in the housing, insert the wiring as far as possible to the back of the housing in a single movement and check for an audible click. In addition, check that wiring inserted in the housing is properly locked in place.

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 75°C for S8JX-P series 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 6.)
- 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 short-circuited, overload or peak 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.

Charging a Battery

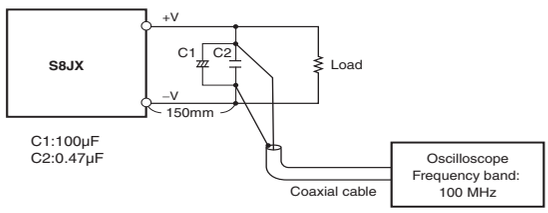
When connecting a battery at the load, connect an overcurrent limiting circuit and overvoltage protection circuit.

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.

Ripple Noise Voltage (S8JX-P Series 300 W 5 V and 600 W 5 V or 12 V Models)

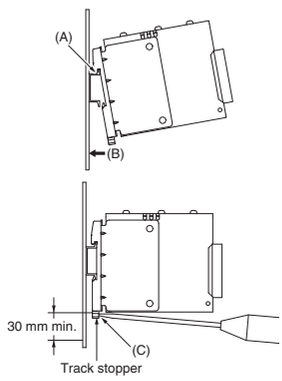
The specified standard for the ripple voltage noise was measured with a measurement circuit that is based on JEITA standard RC-9131A.



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.

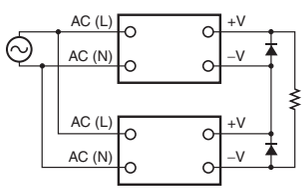
To dismount the Power Supply, pull down portion (C) with a flat-blade screwdriver and pull out the Power Supply.



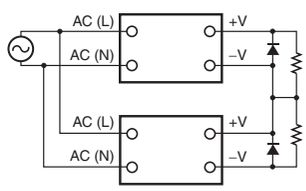
Series Operation

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

Series Operation
Correct



Output Voltage (±)
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.

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

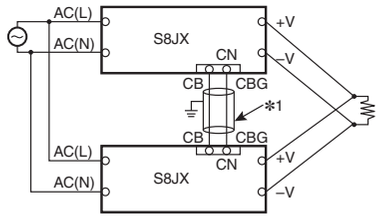
2. Although Products having different specifications can be connected in series, the current flowing through the load must not exceed the smaller rated output current.

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Parallel Operation

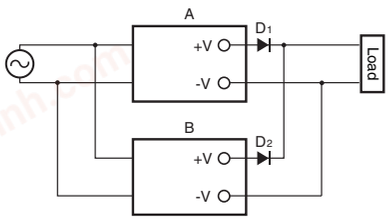
Connecting CB terminal (5 pin on CN) and CBG terminal (6 pin on CN) enables the current balancing function and that allows the parallel operation at 80% or less of the total output capacity.
Up to five Power Supplies can be connected.

- Use 2-conductor shielded cable as a connection wire (✻1).
- Adjust the output voltage difference of each Power Supply to 100 mV or less or 1% or less of the rated output voltage, whichever is smaller, using the output voltage adjuster (V. ADJ).
  During parallel operation, load current may be biased to one side, resulting in damage to internal components.
- Parallel operation is used to increase static capacity. The output voltage may drop with sudden load fluctuations.
- There may be steps in the rising waveform of the output voltage during parallel operation.
- Remove the standard supplied connector and prepare a connector separately.



Backup operation

Backup operation is possible. (Requires an external diode.)



The same model should be used for power supplies A and B.

- Type: Schottky Barrier diode
- Withstand voltage (VRRM): Equivalent to or higher than the rated power supply output voltage
- Forward current (IF): Double the rated power supply output current or higher

- The output voltages of power supplies A and B output should be set higher only by a value equivalent to the drop in diode D_1 and D_2 forward voltages (V_F).
  In addition, since power loss occurs resulting from power supply output current (I_{OUT}) × diode forward voltage (V_F), the diode should be cooled to ensure that its temperature is kept at the value indicated in the catalog or lower.
- Since power loss occurs due to load power and the diode, care should be exercised to ensure that the rated power (Rated output voltage × rated output current) for one power supply is not exceeded.
- For backup operation, do not connect the CB and CBG terminals on S8JX-P-series 300-W or 600-W models.

In Case There Is No Output Voltage

There is a possibility that functions such as over-current protection, over-voltage protection or overheating protection are functioning. In addition, other possible causes include stoppage of the built-in fan and the remote control function (OFF). Please check the following 5 points and, if there is still no output voltage, contact your OMRON sales representative.

Method of Checking Over-current Protection

- Check (after removing load line) whether or not the load is in over-current status (including short circuits).

Method of Checking Over-voltage Protection

- Switch off the input power supply, and switch back on after at least 3 minutes have elapsed.
- Check whether or not the +S and -S terminals are open.

Method of Check Overheating Protection

- Switch off the input power supply and switch back on after allowing sufficient time for cooling.

Checking for Built-in Fan Stoppage

- Check whether or not the built-in fan has stopped. The fan is a replaceable component.

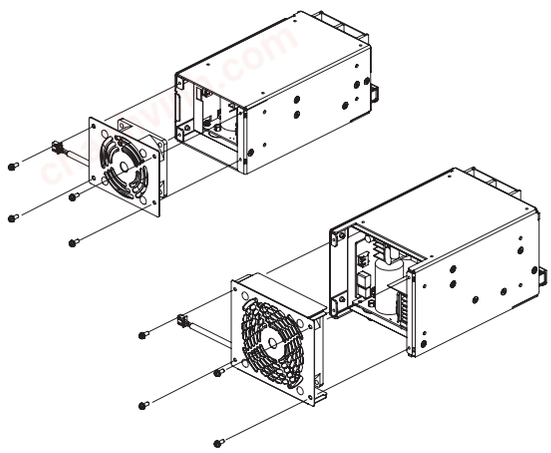
Checking the Remote Control Function

- Check whether or not the +RC and -RC terminals are in open status. Carry out the regulated connections.

Fan Replacement

- Please contact your OMRON sales representative regarding fan replacement. Fans will be replaced at cost. In addition, a replacement fan unit (Model S82Y-JXP□□FAN) is available. Please use the curve below as a guideline for the timing of fan replacement.
- Fan replacements made by the customer fall outside the scope of safety standards.

Replacement should be implemented as shown below.



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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

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