

Excellent Ratings and Performance. Best Power Supply for Industrial Applications

- Four types using classification of power ratings: 30, 60, 100, and 150 W. Also, four types using classification of output voltage: 5, 12, 15, and 24 V.
- 100 to 200 V input field selectable. Moreover, wide input voltage range: 85 to 132 V and 170 to 264 V.
- Equipped with various convenient functions such as overvoltage and overload protection, remote control, and remote sensing.



Ordering Information

Rated input voltage	Power ratings	Output voltage	Output current	Models
100 to 120/200 to 240 VAC	30 W	5 V	6 A	S82G-0305
		12 V	2.5 A	S82G-0312
		15 V	2 A	S82G-0315
		24 V	1.3 A	S82G-0324
	60 W	5 V	12 A	S82G-0605
		12 V	5 A	S82G-0612
		15 V	4 A	S82G-0615
		24 V	2.5 A	S82G-0624
	100 W	5 V	20 A	S82G-1005
		12 V	9 A	S82G-1012
		15 V	7.2 A	S82G-1015
		24 V	4.6 A	S82G-1024
	150 W	5 V	30 A	S82G-1505
		12 V	13.5 A	S82G-1512
		15 V	10.8 A	S82G-1515
		24 V	7 A	S82G-1524

Model Number Legend:

S82G -
 1 2

1. Power Ratings

03: 30 W
 06: 60 W
 10: 100 W
 15: 150 W

2. Output Voltage

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

Specifications

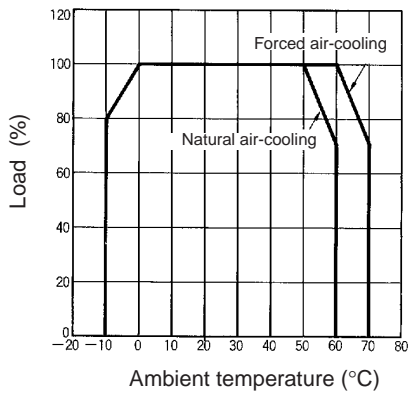
■ Ratings/Characteristics

Item		30 W	60 W	100 W	150 W	
Efficiency (typical)		71% (at 5 V) to 74% (at 24 V)	75% (at 5 V) to 82% (at 24 V)			
Input	Voltage	85 to 132 VAC/170 to 264 VAC (selectable)				
	Frequency	47 to 450 Hz				
	Current (see note 1)	100 to 120 V input	0.95 A max.	1.7 A max.	2.7 A max.	4.0 A max.
		200 to 240 V input	0.6 A max.	0.9 A max.	1.4 A max.	2.1 A max.
	Leakage current (see note 1)	100 to 120 V input	0.5 mA max.			
		200 to 240 V input	1 mA max.			
	Inrush current (see note 1)	100 to 120 V input	15 A max.			
200 to 240 V input		30 A max.				
Noise filter		Yes				
Output	Voltage adjustment range	±10% (adjustable with variable resistor (V.ADJ))				
	Ripple	5 V: 50 mV (p-p) max., 12 V: 120 mV (p-p) max., 15 V: 150 mV (p-p) max., 24 V: 240 mV (p-p) max.				
	Input variation influence	0.5% max. (at 85 to 132 VAC/170 to 264 VAC input, 100% load)				
	Load variation influence	0.8% max. (with rated input, 10 to 100% load)				
	Temperature variation influence	0.03%/°C max. (with rated I/O)				
	Startup time	300 ms max. (up to 90% of output voltage at rated input and output)				
	Hold time	20 ms min. (up to 90% of output voltage at rated input and output)				
Additional function	Overload protection	105% min. of rated load current (typical), inverted L drop type, automatic reset				
	Overvoltage protection	120% of rated output voltage (typical), shut-off type, reset by input reset				
	Remote sensing	Yes				
	Remote control	No			Yes	
Other	Ambient temperature	Operating: See the derating curve in the "Engineering Data" section Storage: -20°C to 85°C				
	Ambient humidity	Operating: 30% to 90% Storage: 20% to 95%				
	Dielectric strength	2,200 VAC, 50/60 Hz for 1 min (between all inputs and all outputs/GR terminal) 500 VDC, 50/60 Hz for 1 min (between all outputs and all inputs/GR terminal)				
	Insulation resistance	100 MΩ min. at 500 VDC (between all outputs and all inputs/GR terminal)				
	Vibration resistance	Malfunction: 10 to 55 Hz, 0.75-mm double amplitude (approx. 4.5G) for 2 hrs each in X, Y, and Z directions				
	Shock resistance	Malfunction: 294 m/s ² (30G), 3 times each in ±X, ±Y, and ±Z directions				
	Output indicator	Yes (GRN)				
	Electromagnetic interference	Conforms to FCC class B				
	Mean time between failures	100,000 hrs min.				
	Approved standards	UL1012, CSA E.B.1402C, VDE0160, VDE0805, EN60950 (IEC950)				
	Weight	700 g max.	850 g max.	1,100 g max.	2,000 g max.	

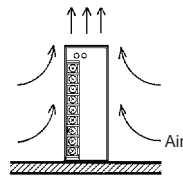
Note: Defined with the rated input voltage and rated output voltage/current.

Engineering Data

■ Derating Curve

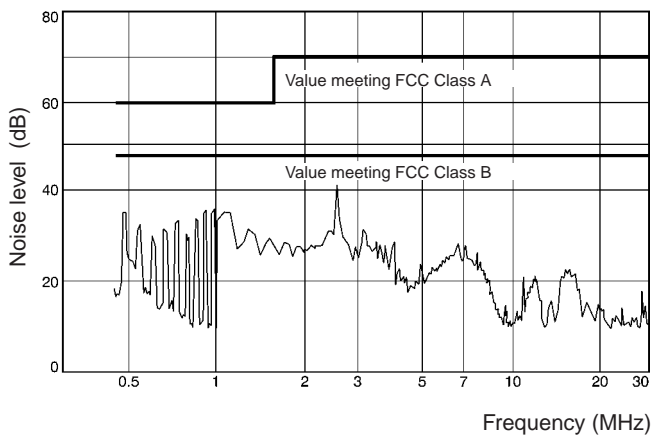


Standard Mounting Position



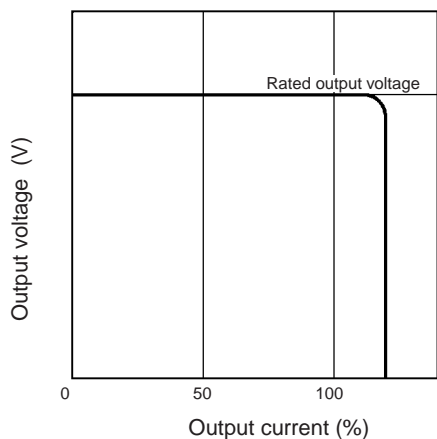
Note: The derating curve depends on the mounting position of the Power Supply.

■ EMI (Example for the S82G-0324)



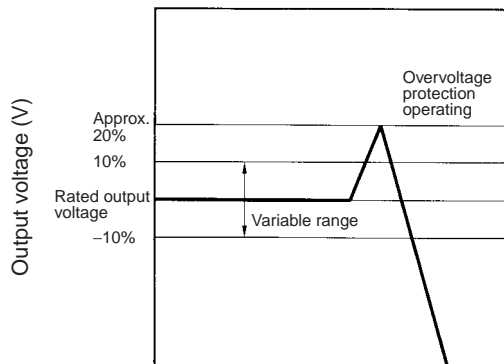
■ Overload Protection

The Power Supply is provided with an overload protection function that protects the load and the power supply from possible damage by overcurrent. When the output current rises above a set value (105% of the rated output 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.



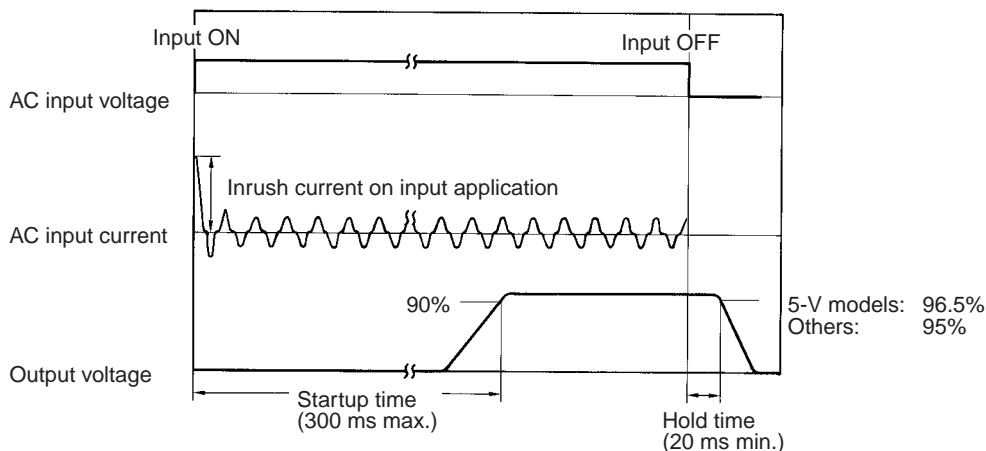
■ Overvoltage Protection

The Power Supply is provided with an overvoltage protection function that protects the load and the Power Supply from possible damage by overvoltage. When the output voltage rises above a set value (120% of the rated output voltage), the protection function is triggered, shutting off the output voltage. If this occurs, reset the Power Supply by turning it off for 20 seconds and then turning it on again.



Note: The output voltage can be varied by the V.ADJ adjuster of the front panel. When it is set to a value 10% higher than the rated value, the overvoltage protection function may be activated.

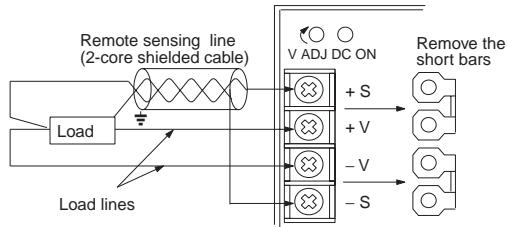
■ Inrush Current, Startup Time, Hold Time



Operation

■ Remote Sensing Function

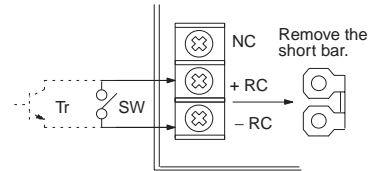
This function corrects a voltage drop in the load wiring. When using the remote sensing function, remove the short bars from the remote sensing terminals as shown in the following diagram.



- Note:**
1. When the voltage drop in the load wiring is large, the overvoltage protection function might be activated due to the increase in voltage to correct the voltage drop, so be sure to use high capacity wiring.
 2. If the +S and +V or -S and -V terminals are left unconnected, the overvoltage protection function will engage and the output voltage will be cut off.

Remote Control Function

The remote control function makes it possible to turn on or off the output without turning the Power Supply on or off. To use this function, remove the short bar, which is attached across the remote control terminals as a factory-set condition, and connect a switch or a transistor across the remote control terminals as shown below.

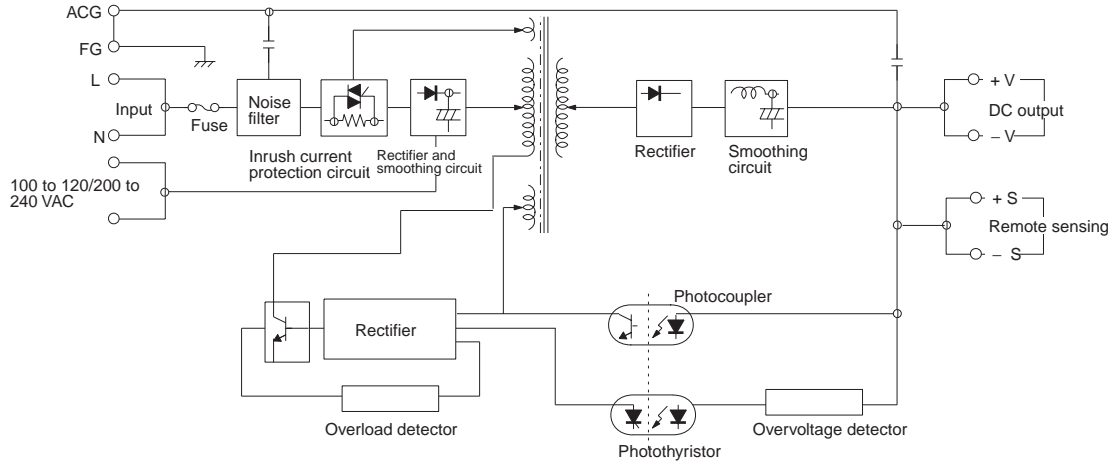


SW or Tr	Output voltage	Level
ON	ON	L (0.8 V max.)
OFF	OFF	H (2 V min.)

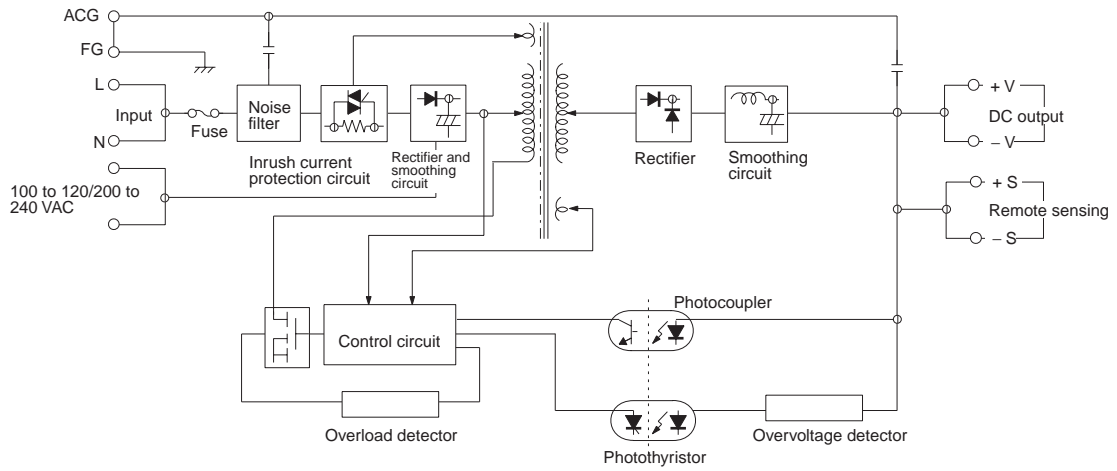
Note: For Tr, use Vce of 20 V min. and Ic of 5 mA min.

■ Block Diagrams

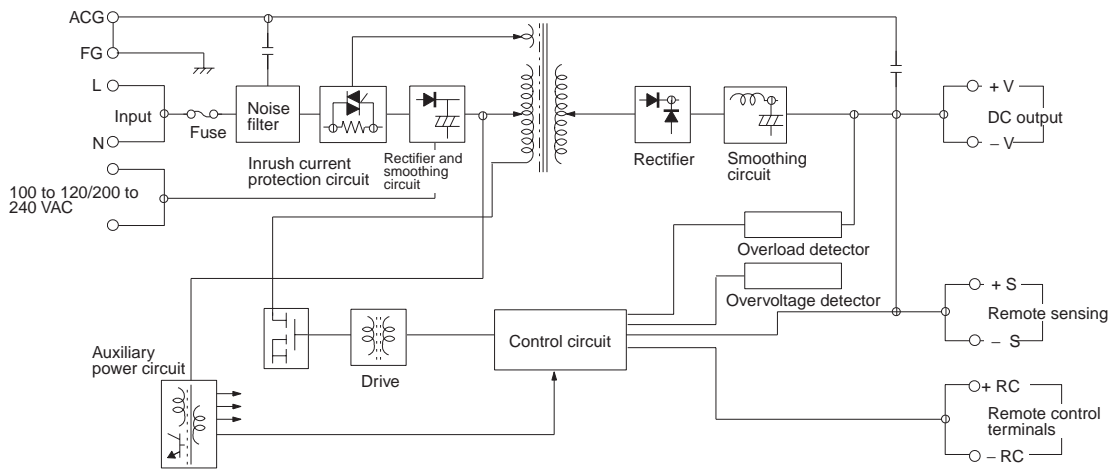
S82G-03



S82G-06
S82G-10



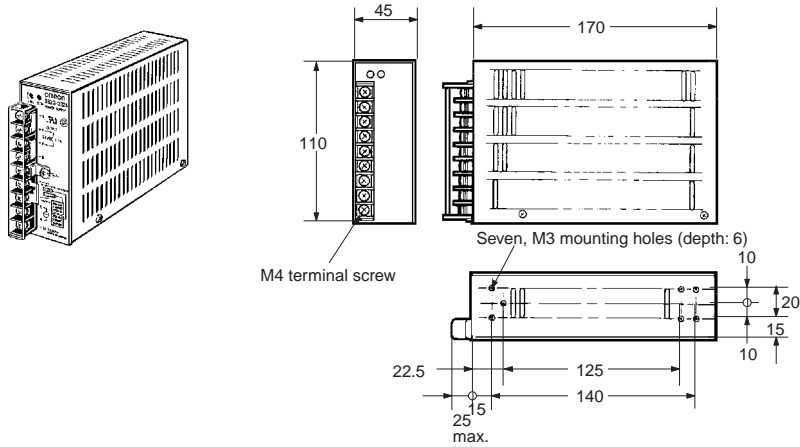
S82G-15



Dimensions

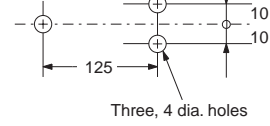
Note: All units are in millimeters unless otherwise indicated.

S82G-03

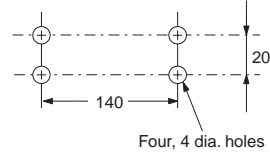


Mounting Holes (Bottom Mounting)

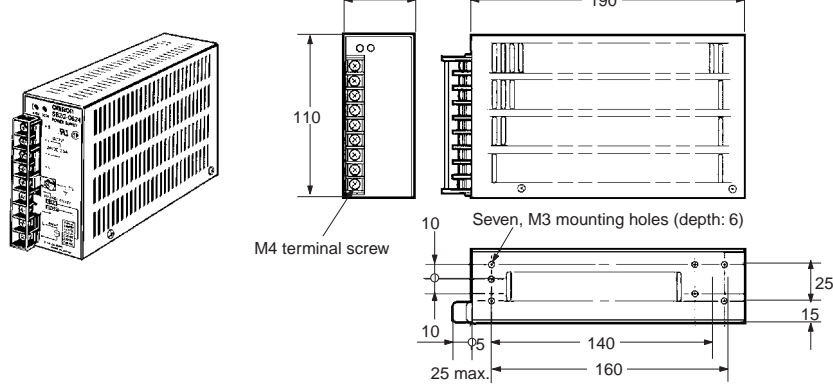
When three holes are made



When four holes are made

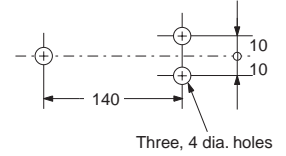


S82G-06

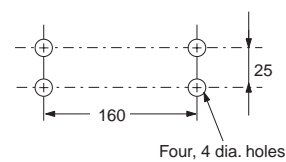


Mounting Holes (Bottom Mounting)

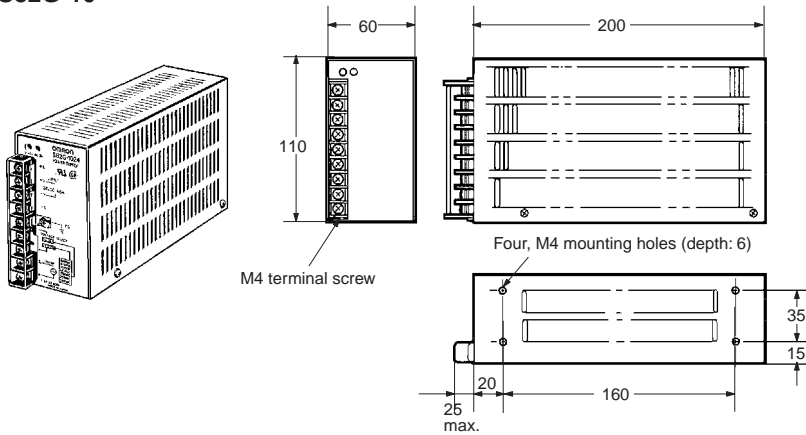
When three holes are made



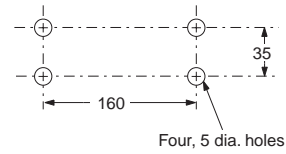
When four holes are made



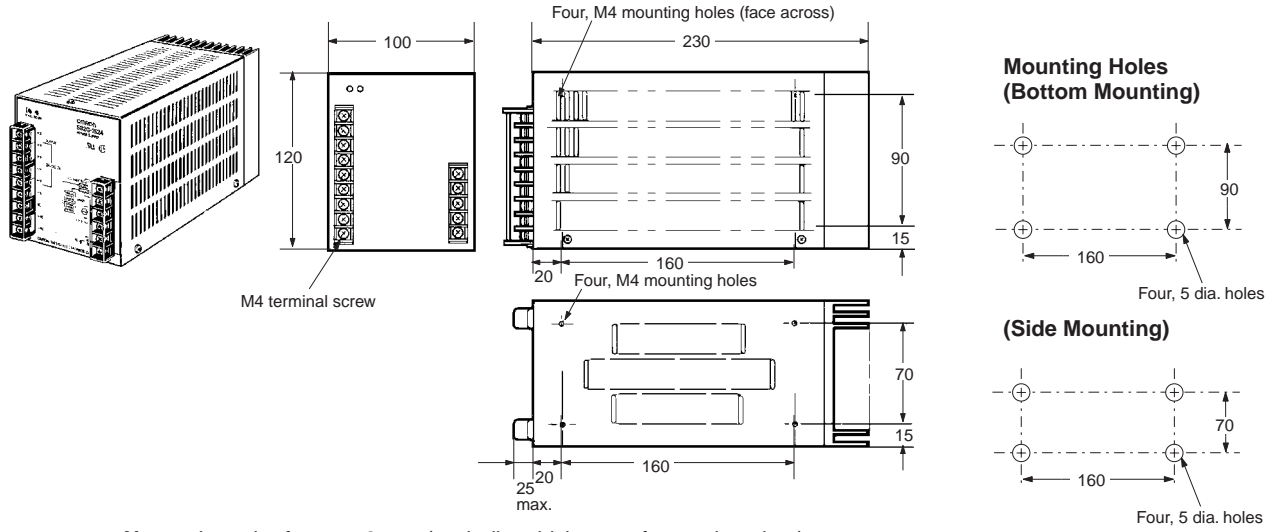
S82G-10



Mounting Holes (Bottom Mounting)



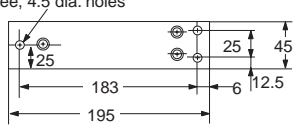
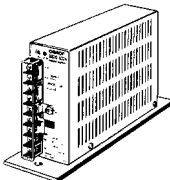
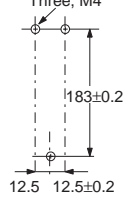
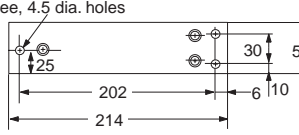
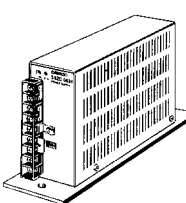
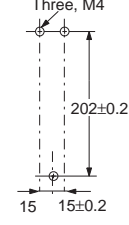
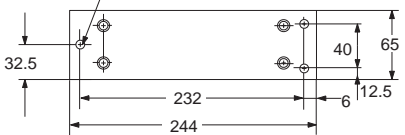
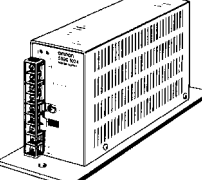
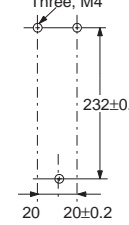
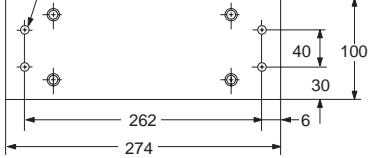
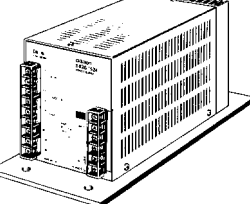
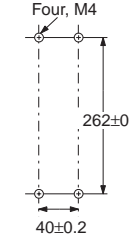
S82G-15



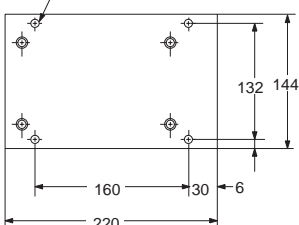
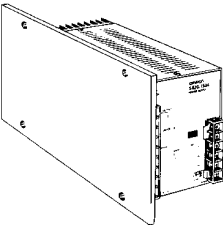
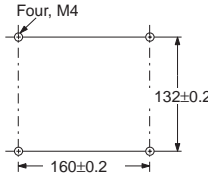
Note: Length of screw: 6 mm (excluding thickness of mounting plate)

■ Mounting Bracket (Order Separately)

Bottom Mounting Bracket

Model	Applicable supply unit	Dimensions	Appearance and mounting holes
S82Y-G03B	S82G-03	<p>Three, 4.5 dia. holes</p>  <p>Note: To attach the mounting bracket to the power supply, use M3 x 6 flat-head screws.</p>	 
S82Y-G06B	S82G-06	<p>Three, 4.5 dia. holes</p>  <p>Note: To attach the mounting bracket to the power supply, use M3 x 6 flat-head screws.</p>	 
S82Y-CM1B	S82G-10	<p>Three, 4.5 dia. holes</p>  <p>Note: To attach the mounting bracket to the power supply, use M4 x 8 flat-head screws.</p>	 
S82Y-C15B	S82G-15	<p>Four, 4.5 dia. holes</p>  <p>Note: To attach the mounting bracket to the power supply, use M4 x 8 flat-head screws.</p>	 

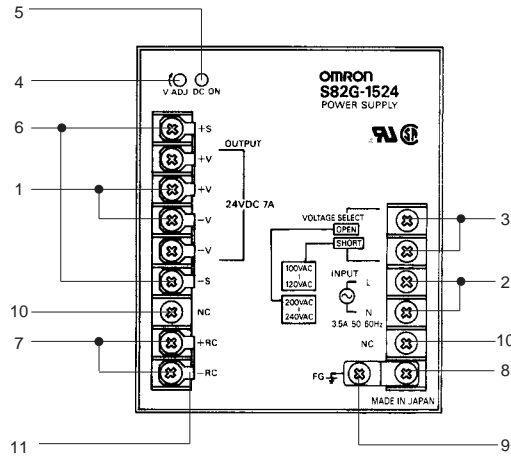
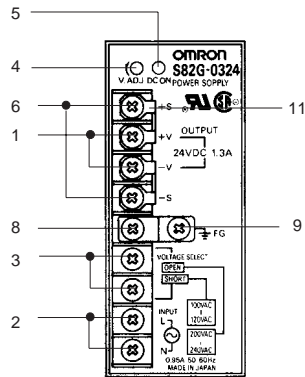
Side Mounting Bracket (for 150 W Only)

Model	Applicable supply unit	Dimensions	Appearance and mounting holes
S82Y-CM1S	S82G-15	<p>Four, 4.5 dia. holes</p>  <p>Note: To attach the mounting bracket to the power supply, use M4 x 8 flat-head screws.</p>	 

Installation

S82G-03□□ (30 W)
 S82G-06□□ (60 W)
 S82G-10□□ (100 W)

S82G-15□□ (150 W)



1. **DC Output Terminals (+V, -V):** Connect the load lines to these terminals.
2. **Input Terminals (L, N):** Connect the input lines to these terminals.
3. **Input Voltage Selector Terminals (VOLTAGE SELECT):** Selects a 100 VAC or 200 VAC input voltage.
4. **V. ADJ Adjuster:** Adjusts the output voltage.
5. **Output Indicator (DC ON):** Lights while a Direct Current (+V, -V) output is ON.
6. **Remote Sensing Terminals (+S, -S):** Corrects the voltage drop in the load lines.
7. **Remote Control Terminals (+RC, -RC):** Connected to an external device to enable remote control of the output while the input voltage is being applied.
8. **ACG Terminal:** The intermediate point of the input filter. Shorted to FG terminal for normal operation.
9. **FG Terminal:** Shorted to the housing and connected to a ground line.
10. **NC Terminals:** Leave unconnected.
11. **Short Bar**

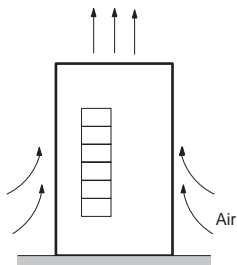


Precautions

Mounting

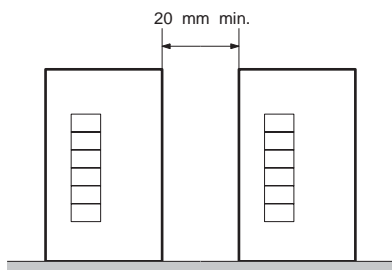
To improve and maintain the reliability of the Power Supply over a long period of time, adequate consideration must be given to heat radiation.

The Power Supply is designed to radiate heat by means of natural air-flow. Therefore, mount the Power Supply so that air flow takes place around the Power Supply.



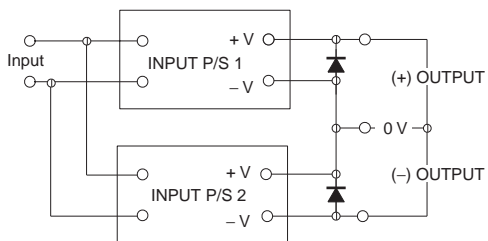
When mounting two or more Power Supplies side-by-side, allow at least 20 mm spacing between them, as shown in the following illustration.

Forced air-cooling is recommended.



Generating Output Voltage (\pm)

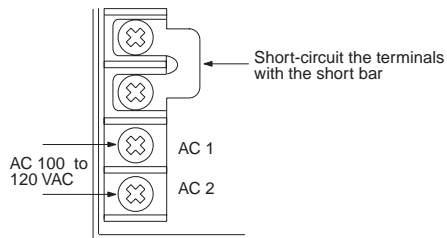
An output of \pm can be generated by using two Power Supplies, as shown below, because the Power Supply produces a floating output.



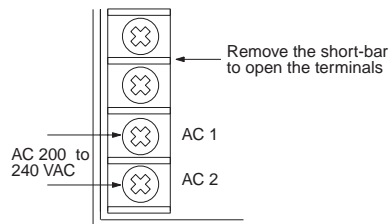
Selection of Input Voltage

Select a 100 V or 200 V input by shorting or opening the Input Voltage Selector Terminals, as shown in the following diagram (factory-set to 200 V).

100 to 120 VAC



200 to 240 VAC



Note: Extra short bar is included with each Unit.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. T002-E1-04 **In the interest of product improvement, specifications are subject to change without notice.**

OMRON Corporation

Industrial Automation Company

Measuring and Supervisory Controls Department
Shiokoji Horikawa, Shimogyo-ku
Kyoto, 600-8530 Japan
Tel: (81)75-344-7108/Fax: (81)75-344-7189

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