

Miniature DIN-Rail Mount Power Supplies

- 3 and 7.5 W models
- AC-DC or DC-DC models
- Wide input voltage ranges: 85 to 264 VAC, 10 to 27 VDC
- Outputs: 5, 12, 15, 24, ± 12 , and ± 15 V
- Ideal for applications with limited space
- 3-year warranty



Ordering Information

Power ratings	Output voltage	Output current	Part number	
			AC input	DC input
3 W	5 V	0.6 A	S82S-0305	S82S-7305
	12 V	0.25 A	S82S-0312	S82S-7312
	15 V	0.2 A	S82S-0315	S82S-7315
	24 V	0.13 A	S82S-0324	S82S-7324
7.5 W	5 V	1.5 A	S82S-0705	S82S-7705
	12 V	0.6 A	S82S-0712	S82S-7712
	15 V	0.5 A	S82S-0715	S82S-7715
	24 V	0.3 A	S82S-0724	S82S-7724
	± 12 V	0.3 A (+12 V)/-0.2 A (-12 V)	S82S-0727	S82S-7727
	± 15 V	0.2 A (+15V)/0.2A (-15 V)	S82S-0728	S82S-7728

MODEL NUMBER LEGEND

S82S -

1	2	3	4

1. Input voltage

0: 100 to 240 VAC
7: 12 to 24 VDC

2. Power ratings

3: 3 W
7: 7.5 W

3. Output voltage

05: 5 V
12: 12 V
15: 15 V
24: 24 V
27: ± 12 V
28: ± 15 V

Specifications

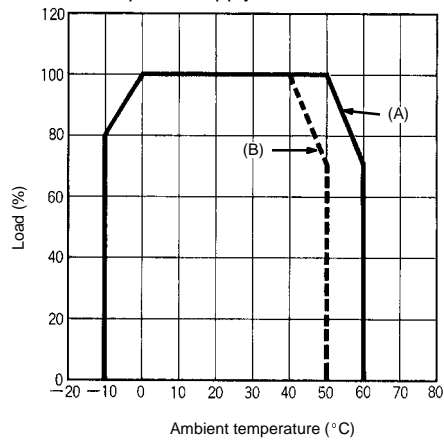
Input type		AC input			DC input		
		3 W	Single output 7.5 W	±Output 7.5 W	3 W	Single output 7.5 W	±Output 7.5 W
Efficiency (typical)		65% to 74%	68% to 79%		68% to 71%	68% to 74%	
Life expectancy		8 years minimum (used at 40°C at the rated input with a 50% load)					
Input							
Voltage	AC	85 to 264 V			—		
	DC	110 to 350 V			10.2 to 27.6 V		
Frequency		47 to 450 Hz			—		
Current with rated I/O		0.15 A max.	0.25 A max.		0.5 A max.	1.2 A max.	
Leakage current	120 V input	0.5 mA max.			—		
	240 V input	1 mA max.			—		
Inrush current	120 V input	15 A max.			—		
	240 V input	30 A max.			—		
Noise filter		Yes					
Output							
Voltage adjustment range		±5%	(See note)	±5%	(See Note.)		
Ripple		2% peak to peak max.					
Input variation influence		0.5% max. (85 to 264 VAC input, 100% load)			0.5% max. (10.2 to 27.6 VDC input, 100% load)		
Load variation influence		1.5% max.	+V: 1.5% max. -V: 3% max.	1.5% max.	+V: 1.5% max. -V: 3% max.		
Temperature variation influence		0.05% per °C max.					
Rise time		100 ms max. (output voltage rise to 90%, with rated input and output)			—		
Hold time		20 ms minimum			—		
Additional functions							
Overload protection		105% min. of rated load current (typical), drop type, automatic reset					
Ambient temperature	Operating	See the derating curve in <i>Engineering Data</i> section					
Characteristics							
Ambient temperature	Storage	-25° to 65°C (-13° to 149°F)					
Ambient temperature	Operating	25% to 85%					
	Storage	20% to 90%					
Dielectric strength		2,000 VAC, 50/60 Hz for 1 minute between all inputs and outputs and ground terminal 500 VDC for 1 minute between all inputs and outputs and ground			1,500 VAC, 50/60 Hz for 1 minute between all inputs and outputs and ground terminal 500 VDC for 1 minute between all inputs and outputs and ground		
Insulation resistance		100 MΩ minimum at 500 VDC between all outputs and inputs and ground terminal					
Vibration resistance		Malfunction: 10 to 55 Hz, 0.75 mm double amplitude (approx. 4.5G) each in X, Y, and Z directions for 2 hours					
Shock resistance		Malfunction: Approximately 30G, 3 times in each X, Y, and Z directions					
Output indicator		Green LED					
Electromagnetic interference		Conforms to FCC Class B standards					
Approved standards		UL 508, CSA 22.2, No. 14					
Weight		150 g (5.29 oz.) max.					

Note: The output voltage is factory set as follows: +V: ±1% of the rated value; and, -V: ±5% of the rated value

Engineering Data

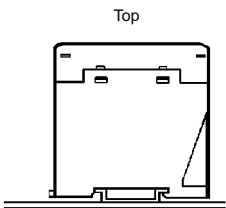
DERATING CURVE

Note: The derating curve depends on the mounting position of the power supply

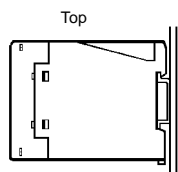


Mounting Position

(A): Standard (Vertical) Installation

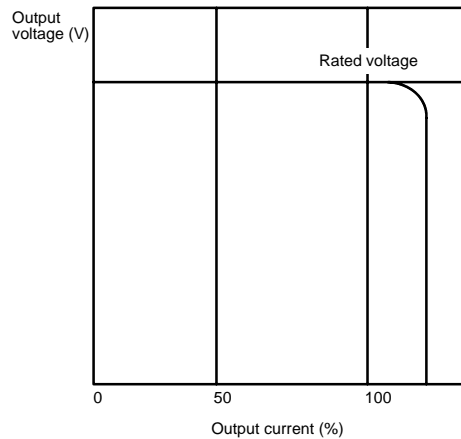


(B): Horizontal Installation

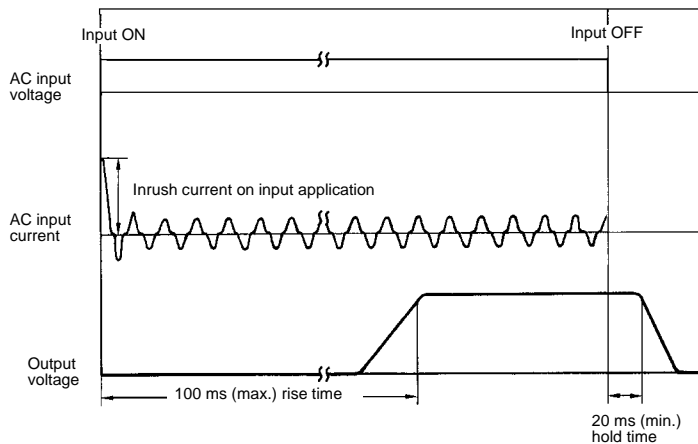


OVERLOAD PROTECTION

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



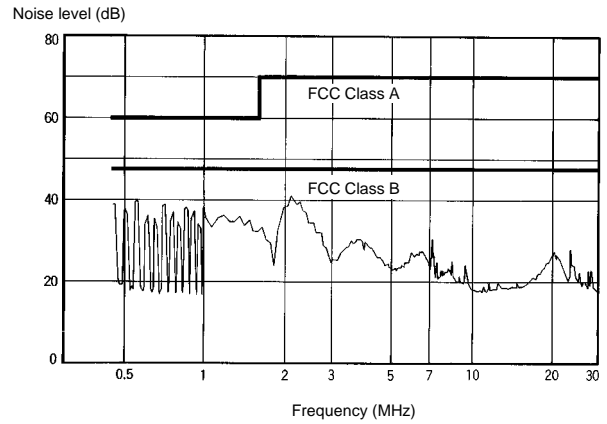
INRUSH CURRENT, RISE TIME, HOLD TIME



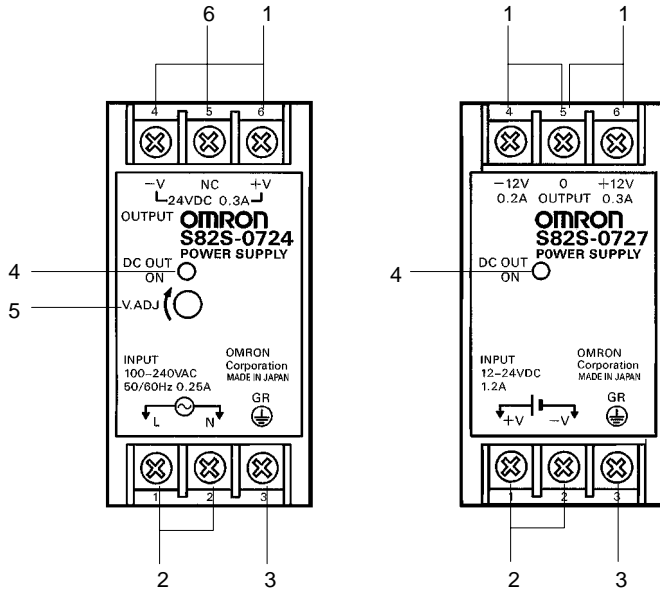
■ ELECTROMAGNETIC INTERFERENCE (AC INPUT MODEL)

± Output Models

+V output is provided with an overload protection that protects the load and the power supply by detecting total load value of +V and -V output. It operates at 105% min. of the rated current of +V output when -V output is producing the rated output, but this condition varies depending on -V output status. -V output has an independent short-circuit protection feature.



Nomenclature

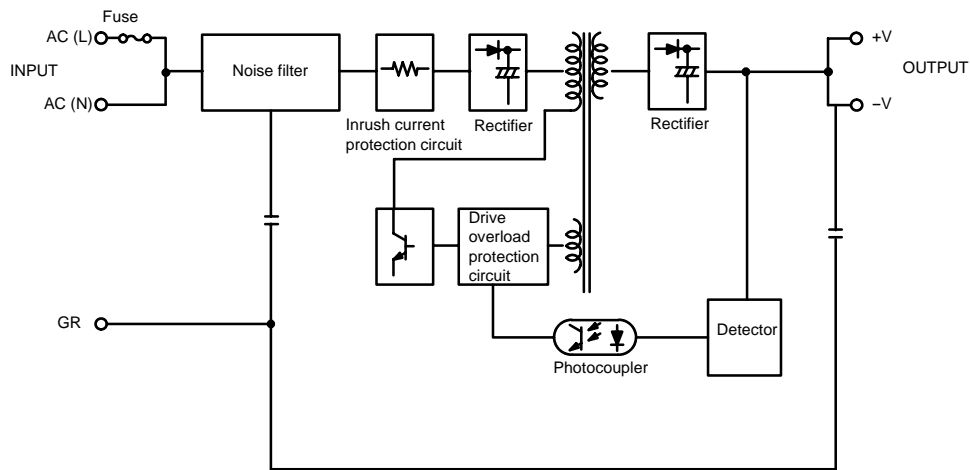


1. **DC Output Terminals:** Connect load wiring.
2. **Input Terminals:** Connect input wiring.
3. **Ground Terminals:** Connect ground wiring.
4. **Output LED Indicator:** Lights when DC current is being output.
5. **V. ADJ Adjuster:** Use to adjust the output voltage.
6. **NC Terminals:** Vacant terminals.

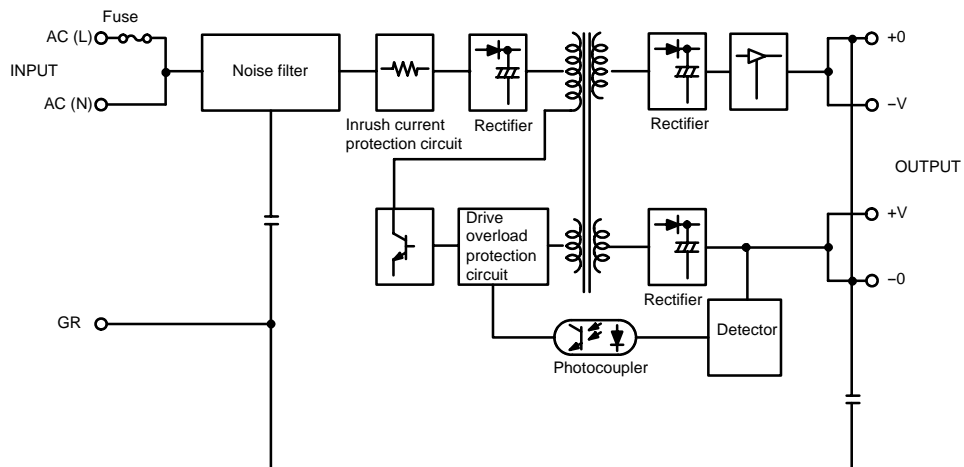
Operation

■ BLOCK DIAGRAMS

Single Output



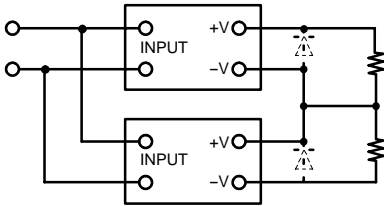
± Outputs



■ 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.

When connecting the power supplies in series with an operation amplifier, connect diodes to the output terminals (as shown by the dotted lines in the figure). Contact your OMRON representative for details on connecting diodes.



■ SERIES OPERATION

The output of two S82S Power Supplies cannot be combined in series.

■ PARALLEL OPERATION

The output of two S82S Power Supplies cannot be combined in parallel.

■ INPUT TERMINALS

Do not connect the input line to the other terminals of the power supply or the power supply will be damaged. The input terminals of DC input models have polarity markings. If the input polarities are reversed, the power supply will be damaged.

■ MINIMUM OUTPUT CURRENT

The minimum output current for \pm output power supplies is restricted by the output voltage and control method. All these outputs are controlled by the $\pm V$ output. If the +V output current falls to 10% or less of the rated output, the -V output voltage may drop.

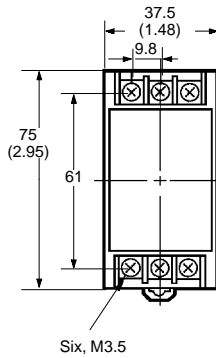
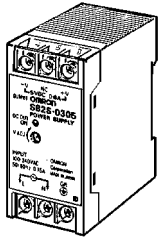
Dimensions

Unit: mm (inch)

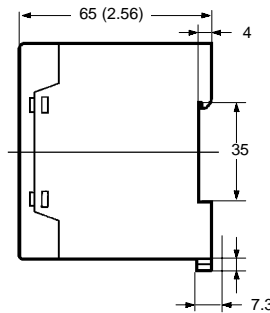
■ SWITCHING POWER SUPPLIES

S82S-□3□□ (3 W)

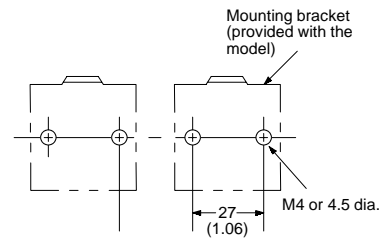
S82S-□7□□ (7.5 W)



Six, M3.5



Mounting Holes



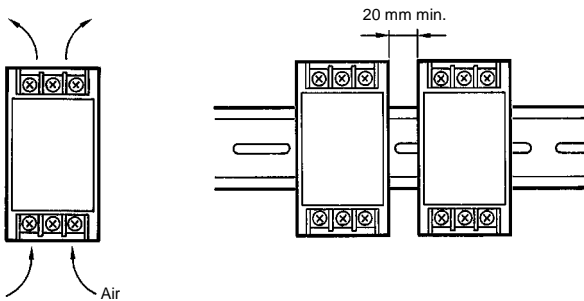
Precautions

■ MOUNTING

- Providing adequate cooling when installing the power supply will extend its long-term reliability.
- As shown in the diagram below, the power supply is cooled by natural air currents, so install the unit in a location with adequate air flow.
- It is recommended to install the power supply on a metal plate, and to use forced-air cooling.

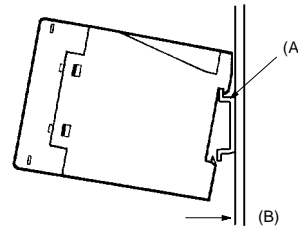
Mounting Two or More Side-by-Side

- When installing two or more power supplies side-by-side, allow at least 20 mm (0.79 in) spacing between them, as shown in the diagram below.

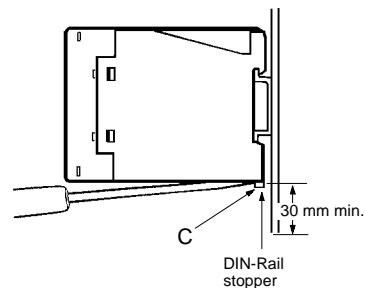


■ DIN-RAIL MOUNTING

To mount the power supply on a DIN-rail, hook portion (A) of the power supply to the track and press the power supply toward direction (B).



To remove the power supply, pull down portion (C) with a flat-blade screwdriver and pull out the power supply.



NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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