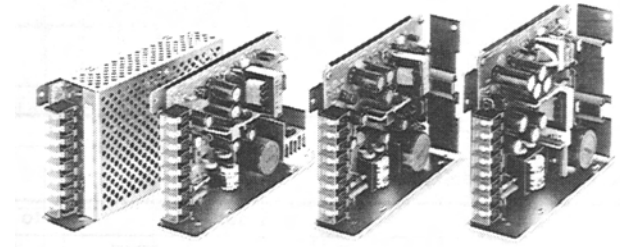


Switching Power Supply

S82R

Economical, Easy-to-use Multi-output Power Supply

- 30 W, 50 W, and 75 W, two-channel output power supply.
- Depth dimension unified with installation dimension.
- Surface mounting as well as bottom and side mounting possible.
- Two types available to meet your application needs: Independent control or secondary auxiliary control.
- UL and CSA approved.



Ordering Information

■ Models

Type	Control method	Capacity	Output voltage/current		Model	
			V ₁	V ₂	callout: : 16 100 to 120 VAC input type	callout: : 17 200 to 240 VAC input type
Open-frame	Independent control	30 W	5 V, 2 A	12 V 2A	S82R-0321	S82R-2321
			5 V, 2 A	24 V, 1 A	S82R-0322	S82R-2322
		50 W	5 V, 3 A	12 V, 3 A	S82R-0521	S82R-2521
			5 V, 2 A	24 V, 2 A	S82R-0522	S82R-2522
		75 W	5 V, 5 A	24 V, 2 A	S82R-0722	S82R-2722
	Secondary auxiliary control	30 W	12 V, 1.7 A	12 V, 0.8 A	S82R-0327	S82R-2327
			15 V, 1 A	15 V, 1 A	S82R-0328	S82R-2328
		50 W	12 V, 3 A	12 V, 1.2 A	S82R-0527	S82R-2527
			15 V, 1.7 A	15 V, 1.7 A	S82R-0528	S82R-2528
Covered	Independent control	30 W	5V, 2 A	12 V 2A	S82R-5321	S82R-6321
			5V, 2 A	24 V, 1 A	S82R-5322	S82R-6322
		50 W	5V, 3 A	12 V, 3 A	S82R-5521	S82R-6521
			5V, 2 A	24 V, 2 A	S82R-5522	S82R-6522
		75 W	5V, 5 A	24 V, 2 A	S82R-5722	S82R-6722
	Secondary auxiliary control	30 W	12 V, 1.7 A	12 V, 0.8 A	S82R-5327	S82R-6327
			15 V, 1 A	15 V, 1 A	S82R-5328	S82R-6328
		50 W	12 V, 3 A	12 V, 1.2 A	S82R-5527	S82R-6527
			15 V, 1.7 A	15 V, 1.7 A	S82R-5528	S82R-6528

■ Model Legend

Types are classified with suffixes as follows:

• S82R - □□□□

0, 2, 5, or 6

Number	Input voltage	Type
0	100 to 120 VAC	Open-frame
2	200 to 240 VAC	Open-frame
5	100 to 120 VAC	Covered
6	200 to 240 VAC	Covered

• S82R - □□□□

3, 5, or 7

Number	Power ratings
3	30 W
5	50 W
7	75 W

• S82R - □□2□

Number	Number of outputs
2	2

• S82R - □□□□

1, 2, 7, or 8

Number	Output voltage	Control method
1	5 or 12 V	Independent control
2	5 or 24 V	
7	12 V	Secondary auxiliary control
8	15 V	

Specifications

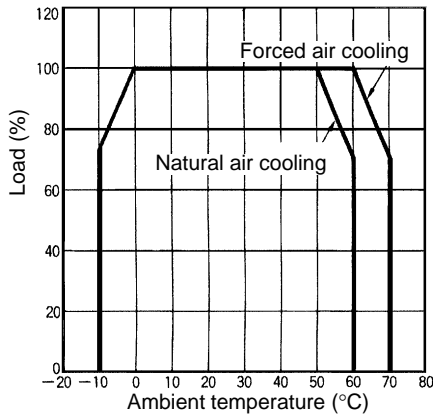
■ Characteristics

Input		100 to 120 V input			200 to 240 V input			
Power rating		30 W	50 W	75 W	30 W	50 W	75 W	
Efficiency (typ.)		74% to 80% (depending on types)						
Life expectancy		8 years min. (with rated input and a 50% load at 40°C)						
Input	Voltage	AC			170 to 264 V			
		DC			Not available			
	Frequency		47 to 450 Hz					
	Current at rated input voltage and rated output voltage/current		1.1 A max.	1.4 A max.	2 A max.	0.7 A max.	0.8 A max.	1.1 A max.
	Leakage current at rated input voltage and rated output voltage/current		0.5 mA max.			1 mA max.		
	Inrush current at rated input voltage and rated output voltage/current		30 A max.			60 A max.		
	Noise filter		Yes					
Output	Voltage accuracy		V ₁ : 3.5% max. V ₂ : 5% max. (with input, load, and temperature within permissible fluctuation ranges)					
	Voltage adjustment		Fixed except for 5-V output which can be adjusted by ±5%					
	Ripple and noise		2% (p-p) max.					
	Regulation, line		0.4% max. (at 85 to 132 V input, 100% load)			0.4% max. (at 170 to 264 V input, 100% load)		
	Regulation, load		V ₁ : 0.8% max. (at rated input, 10% to 100% load) V ₂ : 2% max.					
	Temperature coefficient		0.05%/°C max. (at rated input/output)					
	Rise time		200 ms max. (90% output voltage rise at rated input voltage and rated output voltage/current)					
	Hold up time		20 ms min.					
Ancillary function	Overload protection		105% min. of rated output current typ., trailing, automatic reset					
	Overvoltage protection		No					
Others	Operating temperature		See Derating Curve in <i>Engineering Data</i>					
	Storage temperature		-25°C to 65°C					
	Operating humidity		25% to 85% (storage humidity: 20% to 90%)					
	Dielectric strength		2,000 VAC, 50/60 Hz, for 1 minute (between input terminals and output terminals/housing)					
	Insulation resistance		100 MΩ min. (between output terminals and input terminals/housing at 500 VDC)					
	Vibration resistance		10 to 55 Hz, 0.75 mm double amplitude (approx. 4.5 G) in 3 directions for 2 hours each					
	Shock resistance		294 m/s ² (30G) in 6 directions 3 times each					
	Output LED indicator		Red					
	Common mode noise		4 V (p-p) max.					
	Electro magnetic interference		FCC Class A					
	Safety standards		UL1012, CSA E.B.1402C					
	Approvals	UL	File no. E105544					
		CSA	File no. LR82164					
Weight (covered type)		400 g max.	500 g max.	550 g max.	400 g max.	500 g max.	550 g max.	

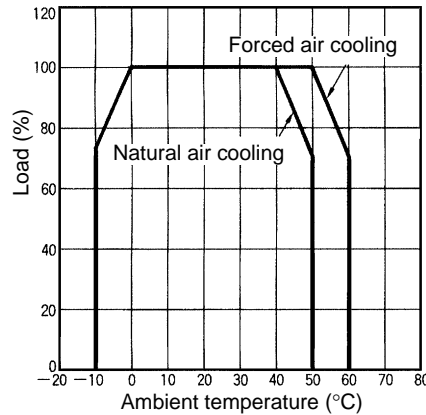
Engineering Data

Derating Curve

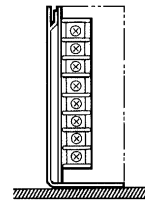
Open-frame Type



Covered Type



Mounting View



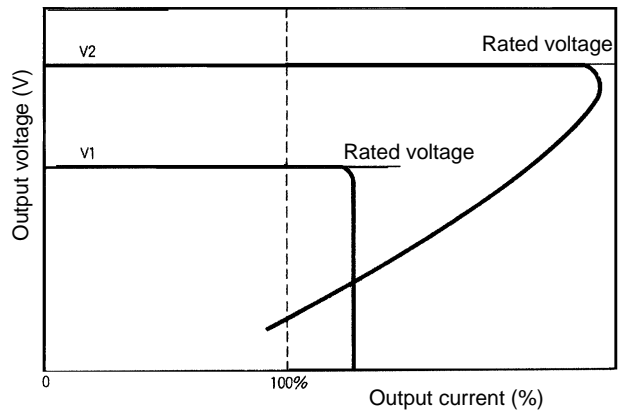
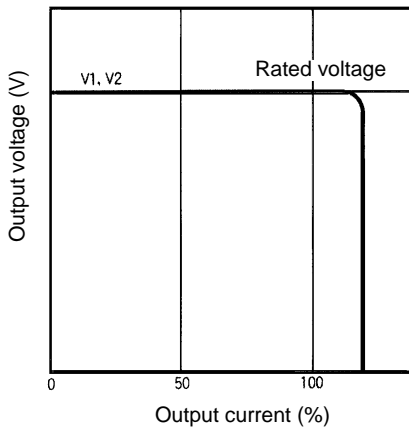
Note: The values here apply to standard installation conditions. Derating curves vary according to installation conditions.

Overload Protection

This function protects the load and the power supply from possible damage by overcurrent. Overload detection and reset are as shown below.

S82R-□□21 and □□22
(Independent Control Type)

S82R-□□27 and □□28
(Secondary Auxiliary Control Type)



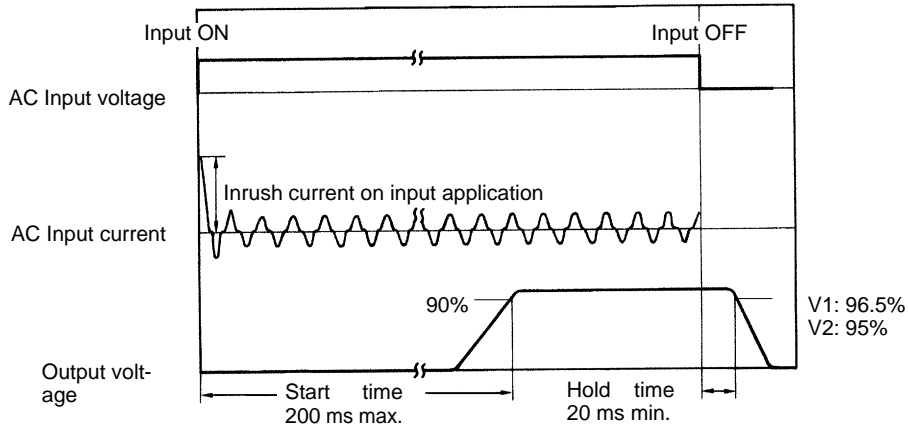
Output	Operation	Detection	Reset
V1 and V2	Decreased	Over 105% of rated load current	Automatically reset by overload reset function.

Note: As V1 and V2 are independent, their detections (output decrease) and resets take place separately.

Output	Operation	Detection	Reset
V1	Decreased	Over 105% of rated load current	Automatically reset by overload reset function.
V2	Short-circuit protection	---	Automatically reset by overload reset function.

Note: 1. Both outputs (V1 and V2) are decreased and automatically reset when V1 output detects overload. As the overload detection of the V1 output detects the total load value of the V1 and V2 outputs, the condition varies depending on V2 output.
2. As V2 is independent, its detection (output decrease) and reset take place separately.

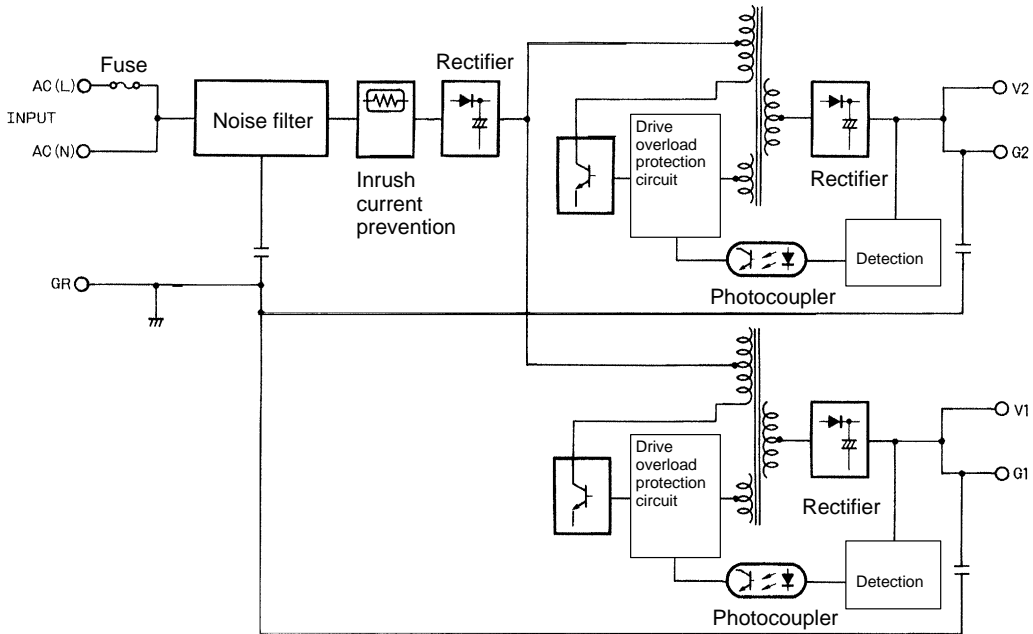
■ Current, Starting Time, Time Maintained



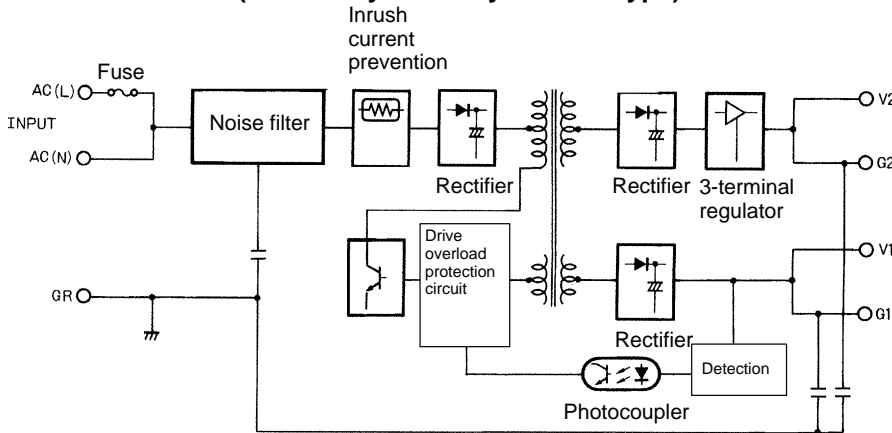
Operation

■ Block Diagram

S82R - □□ 21 and - □□ 22 (Independent Control Type)



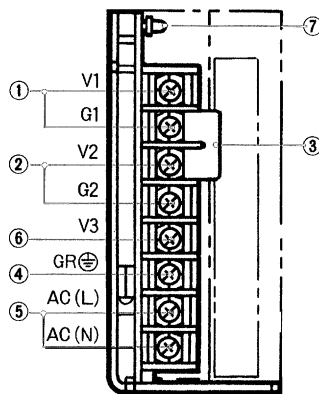
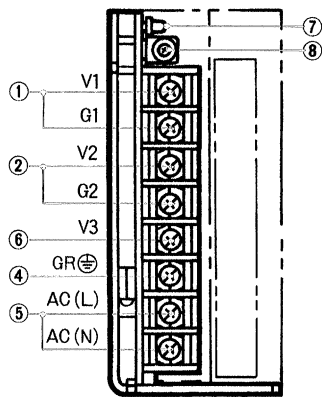
S82R - □□ 27 and - □□ 28 (Secondary Auxiliary Control Type)



■ Terminal Arrangements

S82R-□□ 21 and -□□ 22

S82R-□□ 27 and -□□ 28

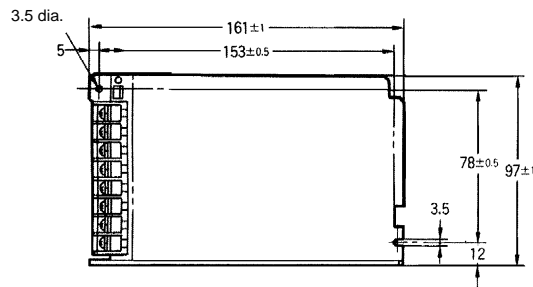
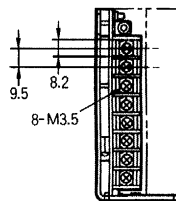
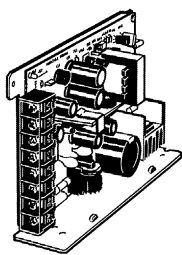


1. V1: DC output terminal
 2. V2: DC output terminal
- Note:** Connect the load lines to V1 and V2.
3. Short bar: Provided to make ± outputs. Without it V1 and V2 outputs can be used as independent outputs. (Supplied only for S82R-□□27 and S82R-□□ as an accessory.)
 4. Ground terminal: This terminal is short circuited to the frame and must be connected to a ground line.
 5. Input terminal: Connect the input lines to these terminals
- Note:** A fuse is connected to AC(L) terminal.
6. V3 terminal: Unused
 7. Output LED indicator: Lights while V1 DC voltage is being output.
 8. Voltage adjuster: Adjusts the output voltage (provided only for 5-V output type). (S82R-□□21 and S82R-□□22)

Dimensions

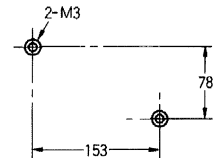
Note: All units are in millimeters unless otherwise specified.

S82R - □3□□ (30W)

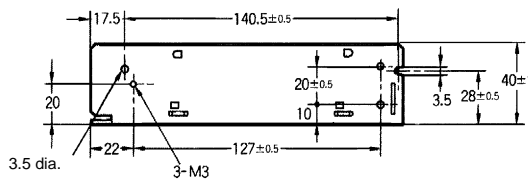
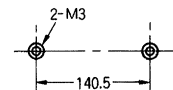


Mounting Holes

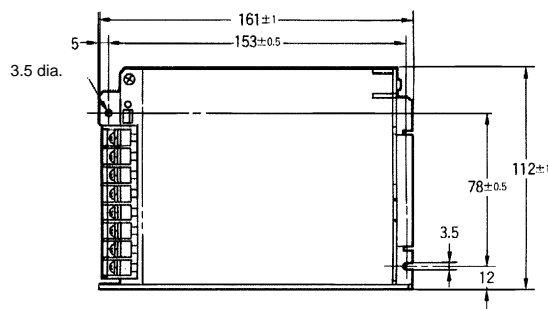
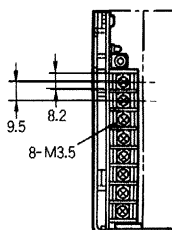
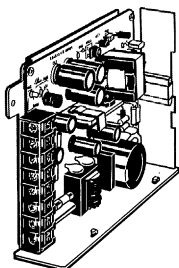
Side View



Bottom View

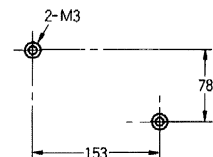


S82R - □5□□ (50W)

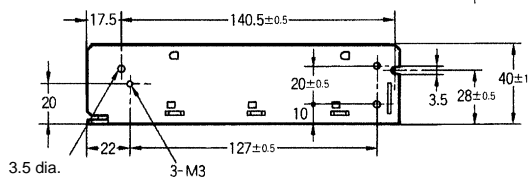
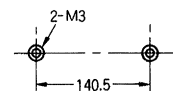


Mounting Holes

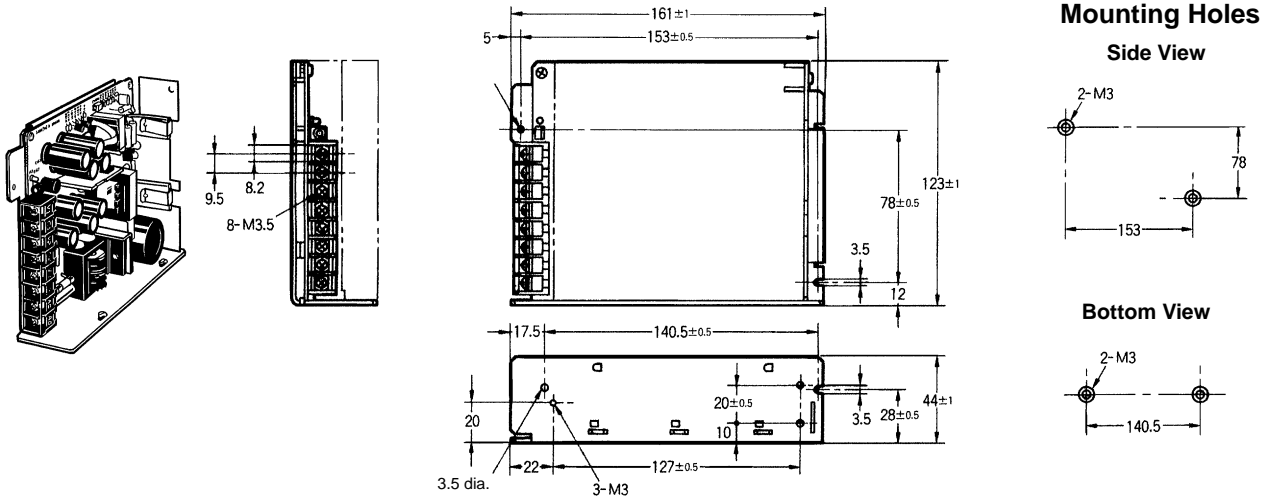
Side View



Bottom View



S82R - □7□□ (75W)

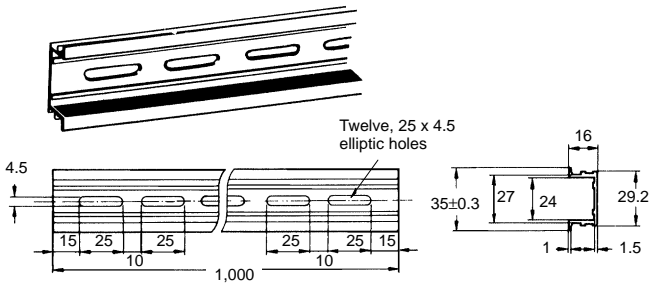


Accessories (Order Separately)

Track Mounting Bracket (Order Separately)

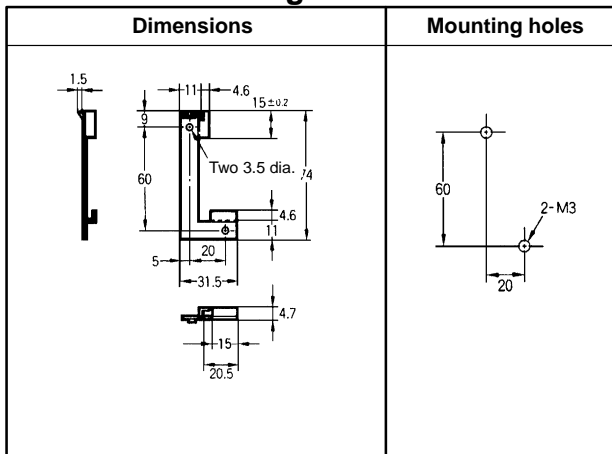
Item	S82Y-05N
Dimensions	<p>Power Supply, Bracket, PFP-100N or PFP-100N2, Two, 4.5-dia holes, DIN track, 47, 104, 58, 47, 17.5, 20±0.5, 10, 3.5, 28±0.5, 44±1, L1, L2</p>
Dimensions: L1	163 mm
L2	164.8 mm

Mounting Track (Order Separately)
PFP-100N2



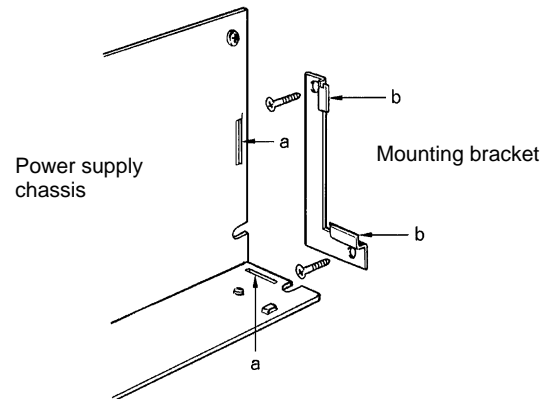
Installation

■ Surface Mounting Bracket



Surface Mounting

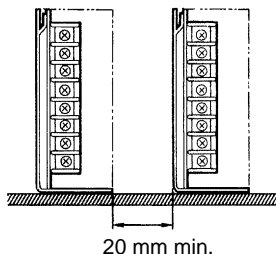
Attach the bracket to the mounting panel with screws already inserted. Install the power supply to the bracket with the projected parts (b) inserted in the slots (a) as illustrated. Then, turn the screws until tight.



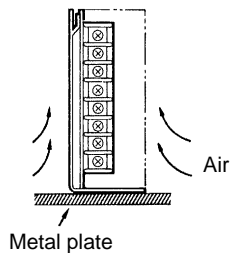
Precautions

■ For Correct Use

- Install the power supply so that heat is effectively dissipated, to extend the life expectancy and improve the reliability of the power supply.
- Install the power supply so that air convection takes place around the power supply as the power supply is designed for natural convection.
- Provide a distance of at least 20 mm between the power supplies.
- When installing two or more power supplies side-by-side, note the following points.



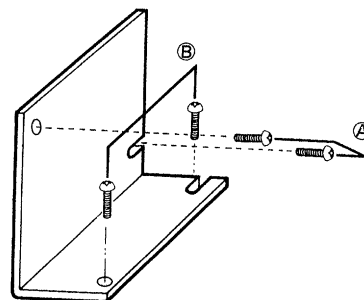
- Provide a distance of at least 20 mm between the power supplies.
- Forced air cooling is strongly recommended.



■ Mounting Procedure

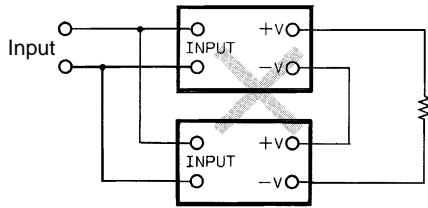
The power supply can be mounted in three different mounting styles, as follows:

- A Side mounting
- B Bottom mounting
- C Surface mounting (see *Installation*)



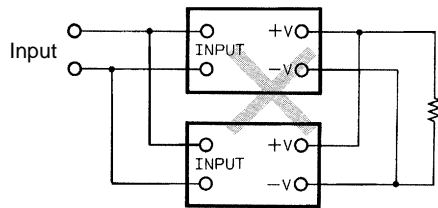
Serial Operation

- The V₁ output and V₂ output cannot be operated in series.
- The V₁ or V₂ output and other power supplies cannot be operated in series.



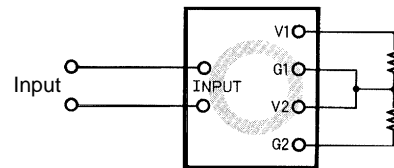
Parallel Operation

- The V₁ output and V₂ output cannot be operated in parallel.
- Furthermore, the V₁ or V₂ output and other power supplies cannot be operated in parallel.



Generating Output Voltages (\pm) (Models S82R-□□27 and S82R-□□28)

- \pm outputs can be made with V₁ and V₂ outputs by attaching the provided short bar.



Output Voltage Adjustment (Models S82R-□□21 and S82R-□□22)

- Only the 5-V output can be adjusted. (Other outputs are fixed.)
- The output voltage is factory set within $\pm 1\%$ of the rated voltage.
- It can be adjusted to a desired level within $\pm 5\%$ of the rated output voltage by using the V.ADJ adjustor.

Note: Although it is possible to adjust the output voltage in a wider range than $\pm 5\%$, do not adjust the voltage to a level exceeding or falling below the $\pm 5\%$ range; otherwise, the output power may exceed the rated capacity.

Minimum Output Current

- There are types with limitation for minimum output current, as below, in relation with their control method.

Model	V ₁ output	V ₂ output
S82R-□□21 S82R-□□22	No limitation	No limitation
S82R-□□27 S82R-□□28	With limitation (see Note)	No limitation

Note: S82R-□□27 and S82R-□□28 control V₁ output directly and V₂ indirectly. Therefore if V₁ output current becomes less than 10% of rated output current, V₂ output voltage may drop.

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. T06-E1-3 In the interest of product improvement, specifications are subject to change without notice.

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