

60/90/120/180/240/480-W Models

High-capacity, Natural Cooling (Fanless) 480-W Model Added to Series

- Compact size: 150 × 115 × 127.2 mm (W × H × D) (480-W models).
- Status displayed on 3-digit, 7-segment display.
- Safety standards:
UL508/60950-1,
CSA C22.2 No. 14/60950-1 (excluding 480-W models),
CSA C22.2 No. 107.1/60950-1 (480-W models),
EN50178 (= VDE0160),
EN60950-1 (= VDE0805 Teil 1)



15/30-W Models

Compact, Thin Power Supplies That Mount Just About Anywhere to Contribute to Control Panel Downsizing

- Compact, thin size: 22.5 × 85 × 96.5 mm (W × H × D).
- Three mounting directions (standard, horizontal, facing horizontal).
- Mounting directly to the panel is possible.
- Safety standards:
UL508/60950-1/1604, cUL: CSA C22.2 No. 14/60950-1/213,
EN50178 (= VDE0160), EN60950-1 (= VDE0805 Teil 1).



Features Common to All Models

- Mount to DIN Rail.
- Complies with SEMI F47-0200 (200-VAC input).
- RoHS-compliant.

Note: Refer to *Safety Precautions* on page 26.

Model Number Structure

■ Model Number Legend

Note: Not all combinations are possible. Refer to *List of Models* in *Ordering Information* on page 3.

S8VS-

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1. Power Ratings

015: 15 W
030: 30 W
060: 60 W
090: 90 W
120: 120 W
180: 180 W
240: 240 W
480: 480 W

3. Indication monitor

None: Without indication monitor (Standard)
A: With indication monitor (maintenance forecast monitor)
B: With indication monitor (total run time monitor)

4. Alarm output

None: Sinking (See note 1.)
P: Sourcing

2. Output voltage

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

Note: 1. Both sinking and sourcing outputs are available for 480-W models.
2. No alarm output possible with 60-W models.

Ordering Information

List of Models

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

Without Indication Monitor (Standard)

Power ratings	Input voltage	Output voltage	Output current	Model number
15 W	100 to 240 VAC	5 V	2.0 A	S8VS-01505 (See note 1.)
		12 V	1.2 A	S8VS-01512
		24 V	0.65 A	S8VS-01524
30 W		5 V	4.0 A	S8VS-03005 (See note 2.)
		12 V	2.5 A	S8VS-03012
		24 V	1.3 A	S8VS-03024
60 W		24 V	2.5 A	S8VS-06024
90 W			3.75 A	S8VS-09024
120 W			5 A	S8VS-12024
180 W			7.5 A	S8VS-18024
240 W			10 A	S8VS-24024
480 W			20 A Peak current 30 A (200 VAC)	S8VS-48024

Note: 1. The output capacity of the S8VS-01505 is 10 W.

2. The output capacity of the S8VS-03005 is 20 W.

With Indication Monitor (maintenance forecast monitor)

Power ratings	Input voltage	Output voltage	Output current	Alarm output	Model number
60 W	100 to 240 VAC	24 V	2.5 A	---	S8VS-06024A
90 W			3.75 A	Sinking	S8VS-09024A
				Sourcing	S8VS-09024AP
120 W			5 A	Sinking	S8VS-12024A
				Sourcing	S8VS-12024AP
180 W			7.5 A	Sinking	S8VS-18024A
				Sourcing	S8VS-18024AP
240 W			10 A	Sinking	S8VS-24024A
				Sourcing	S8VS-24024AP
480 W			20 A Peak current 30 A (200 VAC)	Sinking/sourcing	S8VS-48024A

With Indication Monitor (total run time monitor)

Power ratings	Input voltage	Output voltage	Output current	Alarm output	Model number
60 W	100 to 240 VAC	24 V	2.5 A	---	S8VS-06024B
90 W			3.75 A	Sinking	S8VS-09024B
				Sourcing	S8VS-09024BP
120 W			5 A	Sinking	S8VS-12024B
				Sourcing	S8VS-12024BP
180 W			7.5 A	Sinking	S8VS-18024B
				Sourcing	S8VS-18024BP
240 W			10 A	Sinking	S8VS-24024B
				Sourcing	S8VS-24024BP
480 W			20 A Peak current 30 A (200 VAC)	Sinking/sourcing	S8VS-48024B

Specifications

■ Ratings/Characteristics

Power ratings		15 W	30 W
Type		Standard	Standard
Item			
Efficiency (typical)	5-V models	72% min.	70% min.
	12-V models	74% min.	76% min.
	24-V models	77% min.	80% min.
Input	Voltage (See note 1.)	100 to 240 VAC (85 to 264 VAC)	
	Frequency (See note 1.)	50/60 Hz (47 to 450 Hz)	
	Current	100-V input	0.45 A max.
		200-V input	0.9 A max.
	Power factor	---	
	Harmonic current emissions	Conforms to EN61000-3-2	
	Leakage current	100-V input	0.5 mA max.
		200-V input	1.0 mA max.
	Inrush current (See note 2.)	100-V input	25 A max. (for a cold start at 25°C)
		200-V input	50 A max. (for a cold start at 25°C)
Output	Voltage adjustment range (See note 3.)	-10% to 15% (with V.ADJ)	
	Ripple	2.0% (p-p) max. (at rated input/output voltage)	
	Input variation influence	0.5% max. (at 85 to 264 VAC input, 100% load)	
	Load variation influence (rated input voltage)	2.0% max. (5 V), 1.5% max. (12 V, 24 V), (with rated input, 0 to 100% load)	
	Temperature variation influence	0.05%/°C max.	
	Startup time (See note 2.)	100 ms max. (at rated input/output voltage)	1,000 ms max. (at rated input/output voltage)
	Hold time (See note 2.)	20 ms min. (at rated input/output voltage)	
	Overload protection (See note 2.)	105% to 160% of rated load current, voltage drop, automatic reset	105% to 160% of rated load current, voltage drop, intermittent operation, automatic reset
	Overvoltage protection (See note 2.)	Yes (a zener diode clamp) (See note 4.)	Yes (See note 5.)
	Output voltage indication	No	
Additional functions	Output current indication	No	
	Peak-hold current indication	No	
	Maintenance forecast monitor indication	No	
	Maintenance forecast monitor output	No	
	Total run time monitor indication	No	
	Total run time monitor output	No	
	Undervoltage alarm indication	Yes (color: red)	
	Undervoltage alarm output	No	
	Parallel operation	No	
	Series operation	Models with 24-V output: Possible for up to 2 Power Supplies (with external diode) Models with 5- or 12-V output: Not possible	
Other	Operating ambient temperature	Refer to the derating curve in <i>Engineering Data (15-W, 30-W Models)</i> . (with no icing or condensation)	
	Storage temperature	-25 to 65°C	
	Operating ambient 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 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, and ±Z directions	
	Output indicator	Yes (color: green)	
	EMI	Conducted Emissions	Conforms to EN61204-3 EN55011 Class B and based on FCC Class A
		Radiated Emissions	Conforms to EN61204-3 EN55011 Class B
	EMS	Conforms to EN61204-3 high severity levels	
	Approved standards	UL: UL508 (Listing: Class 2: Per UL1310), UL60950-1, UL1604 (Class I/Division2) cUL: CSA C22.2 No.14 (Class 2), No.60950-1, No.213 (Class I/Division2) EN/VDE: EN50178 (=VDE0160), EN60950-1 (=VDE0805 Teil 1) SELV (EN60950/EN50178/UL60950-1) According to VDE0106/P100, IP20	
	SEMI	F47-0200 (200-VAC input)	
	Weight	160 g max.	180 g max.

Note: 1. 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.

2. Refer to *Engineering Data (15-W, 30-W Models)* on page 11 for details.

3. 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 the load is not damaged.

4. The overvoltage protection of the S8VS-015□□ uses a zener diode clamp. If the internal feedback circuit is destroyed by any chance, the load may be destroyed by the clamped output voltage (approx. 140% to 190% of the rated output voltage).

5. To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON.

Item		Power ratings		60 W		90 W			
		Type		Standard	Maintenance forecast monitor	Total run time monitor	Standard	Maintenance forecast monitor	Total run time monitor
Efficiency (typical)				78% min.			80% min.		
Input	Voltage (See note 1.)		100 to 240 VAC (85 to 264 VAC)						
	Frequency (See note 1.)		50/60 Hz (47 to 450 Hz)						
	Current	100-V input	1.7 A max.			2.3 A max.			
		200-V input	1.0 A max.			1.4 A max.			
	Power factor		---						
	Harmonic current emissions		Conforms to EN61000-3-2						
	Leakage current	100-V input	0.5 mA max.						
200-V input		1.0 mA max.							
	Inrush current (See note 2.)	100-V input	25 A max. (for a cold start at 25°C)						
		200-V input	50 A max. (for a cold start at 25°C)						
Output	Voltage adjustment range (See note 3.)		-10% to 15% (with V. ADJ)						
	Ripple		2.0% (p-p) max. (at rated input/output voltage)						
	Input variation influence		0.5% max. (at 85 to 264 VAC input, 100% load)						
	Load variation influence (rated input voltage)		1.5% max. (with rated input, 0 to 100% load)						
	Temperature variation influence		0.05%/°C max.						
	Startup time (See note 2.)		1,000 ms max. (at rated input/output voltage)						
	Hold time (See note 2.)		20 ms min. (at rated input/output voltage)						
Additional functions	Overload protection (See note 2.)		105% to 160% of rated load current, voltage drop, intermittent, automatic reset						
	Overvoltage protection (See notes 2 and 4.)		Yes						
	Output voltage indication (See note 5.)		No	Yes (selectable) (See note 6.)		No	Yes (selectable) (See note 6.)		
	Output current indication (See note 5.)		No	Yes (selectable) (See note 7.)		No	Yes (selectable) (See note 7.)		
	Peak-hold current indication (See note 5.)		No	Yes (selectable) (See note 8.)		No	Yes (selectable) (See note 8.)		
	Maintenance forecast monitor indication (See note 5.)		No	Yes (selectable)	No	No	Yes (selectable)	No	
	Maintenance forecast monitor output		No				Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)		No
	Total run time monitor indication (See note 5.)		No		Yes (selectable)	No			Yes (selectable)
	Total run time monitor output (See note 5.)		No						Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)
	Undervoltage alarm indication (See note 5.)		No	Yes (selectable)		No	Yes (selectable)		
	Undervoltage alarm output terminals		No				Yes (transistor output) 30 VDC max., 50 mA max. (See note 9.)		
	Parallel operation		No						
	Series operation		Yes for up to 2 Power Supplies (with external diode)						
Other	Operating ambient temperature		Refer to the derating curve in <i>Engineering Data (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)</i> . (with no icing or condensation)						
	Storage temperature		-25 to 65°C						
	Operating ambient humidity		25% to 85% (Storage humidity: 25% to 90%)						
	Dielectric strength		3.0 kVAC for 1 min. (between all inputs and outputs/ alarm 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/ alarm outputs and PE terminals; detection current: 20 mA) 500 VAC for 1 min. (between all outputs and alarm outputs; detection current: 20 mA)						
	Insulation resistance		100 MΩ min. (between all outputs/ alarm 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 10 to 150 Hz, 0.35-mm single amplitude (5 G max.) for 80 min each in X, Y, and Z directions						
	Shock resistance		150 m/s ² , 3 times each in ±X, ±Y, and ±Z directions						
	Output indicator		Yes (color: green)						
	EMI	Conducted Emissions	Conforms to EN61204-3 EN55011 Class A and based on FCC Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)						
		Radiated Emissions	Conforms to EN61204-3 EN55011 Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)						
	EMS		Conforms to EN61204-3 high severity levels						
	Approved standards		UL: UL508 (Listing; Class 2: Per UL1310), UL60950-1 cUL: CSA C22.2 No.14 (Class 2), No.60950-1 EN/VDE: EN50178 (=VDE0160), EN60950-1 (=VDE0805 Teil 1) SELV (EN60950/EN50178/UL60950-1) According to VDE0106/P100, IP20			UL: UL508 (Listing), UL60950-1 cUL: CSA C22.2 No.14, No.60950-1 EN/VDE: EN50178 (=VDE0160), EN60950-1 (=VDE0805 Teil 1) SELV (EN60950/EN50178/UL60950-1) According to VDE0106/P100, IP20			
	SEMI		F47-0200 (200-VAC input)						
	Weight		330 g max.			490 g max.			

- Note:**
- 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.
 - Refer to *Engineering Data (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)* on page 21 for details.
 - If the output voltage adjuster (V. ADJ) is turned, the voltage will increase by more than +15% of the voltage adjustment range (by more than +10% for 240-W models). When adjusting the output voltage, confirm the actual output voltage from the Power Supply and be sure that the load is not damaged.
 - To reset the protection, turn OFF the input power for three minutes or longer and then turn it back ON.
 - Displayed on 7-segment LED. (character height: 8 mm)
 - Resolution of output voltage indication: 0.1 V; Precision of output voltage indication: ±2% (percentage of output voltage value, ±1 digit)
 - Resolution of output current indication: 0.1 A; Precision of output current indication: ±5% F.S. ±1 digit max. (specified by rated output voltage)
 - Resolution of peak-hold current indication: 0.1 A; Precision of peak-hold current indication: ±5% F.S. ±1 digit max. (specified by rated output voltage);
Signal width required for peak-hold current: 20 ms
 - A Type and B Type: Sinking, AP Type and P Type: Sourcing
 - To ensure the emission rating, a ferrite ring core should be used in all cabling (TDK HF60T, HF70RH or equivalent model).
 - To ensure the emission rating, a ferrite ring core should be used in all cabling (SEIWA E04SR301334 or equivalent model).

Item	Power ratings		120 W			180 W			
	Type		Standard	Maintenance forecast monitor	Total run time monitor	Standard	Maintenance forecast monitor	Total run time monitor	
Efficiency (typical)			80% min.						
Input	Voltage (See note 1.)		100 to 240 VAC (85 to 264 VAC)						
	Frequency (See note 1.)		50/60 Hz (47 to 63 Hz)						
	Current	100-V input	1.9 A max.			2.9 A max.			
		200-V input	1.1 A max.			1.6 A max.			
	Power factor		0.95 min.						
	Harmonic current emissions		Conforms to EN61000-3-2						
	Leakage current	100-V input	0.5 mA max.						
		200-V input	1.0 mA max.						
	Inrush current (See note 2.)	100-V input	25 A max. (for a cold start at 25°C)						
		200-V input	50 A max. (for a cold start at 25°C)						
Output	Voltage adjustment range (See note 3.)		−10% to 15% (with V.ADJ) (guaranteed)						
	Ripple		2.0% (p-p) max. (at rated input/output voltage)						
	Input variation influence		0.5% max. (at 85 to 264 VAC input, 100% load)						
	Load variation influence (rated input voltage)		1.5% max. (with rated input, 0 to 100% load)						
	Temperature variation influence		0.05%/°C max.						
	Startup time (See note 2.)		1,000 ms max. (at rated input/output voltage)						
	Hold time (See note 2.)		20 ms min. (at rated input/output voltage)						
Additional functions	Overload protection (See note 2.)		105% to 160% of rated load current, voltage drop, intermittent, automatic reset						
	Overvoltage protection (See notes 2 and 4.)		Yes						
	Output voltage indication (See note 5.)		No	Yes (selectable) (See note 6.)			No	Yes (selectable) (See note 6.)	
	Output current indication (See note 5.)		No	Yes (selectable) (See note 7.)			No	Yes (selectable) (See note 7.)	
	Peak-hold current indication (See note 5.)		No	Yes (selectable) (See note 8.)			No	Yes (selectable) (See note 8.)	
	Maintenance forecast monitor indication (See note 5.)		No	Yes (selectable)	No	No	Yes (selectable)	No	
	Maintenance forecast monitor output		No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)		No	No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	No
	Total run time monitor indication (See note 5.)		No			Yes (selectable)	No		
	Total run time monitor output (See note 5.)		No			Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	
	Undervoltage alarm indication (See note 5.)		No	Yes (selectable)			No	Yes (selectable)	
	Undervoltage alarm output terminals		No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)			No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	
	Parallel operation		No						
Series operation		Yes for up to 2 Power Supplies (with external diode)							
Other	Operating ambient temperature		Refer to the derating curve in <i>Engineering Data (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)</i> . (with no icing or condensation)						
	Storage temperature		−25 to 65°C						
	Operating ambient humidity		25% to 85% (Storage humidity: 25% to 90%)						
	Dielectric strength		3.0 kVAC for 1 min. (between all inputs and outputs/ alarm 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/ alarm outputs and PE terminals; detection current: 20 mA) 500 VAC for 1 min. (between all outputs and alarm outputs; detection current: 20 mA)						
	Insulation resistance		100 MΩ min. (between all outputs/ alarm 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 10 to 150 Hz, 0.35-mm single amplitude (5 G max.) for 80 min each in X, Y, and Z directions						
	Shock resistance		150 m/s², 3 times each in ±X, ±Y, and ±Z directions						
	Output indicator		Yes (color: green)						
	EMI	Conducted Emissions	Conforms to EN61204-3 EN55011 Class A and based on FCC Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)						
		Radiated Emissions	Conforms to EN61204-3 EN55011 Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)						
	EMS		Conforms to EN61204-3 high severity levels						
	Approved standards		UL: UL508 (Listing), UL60950-1 cUL: CSA C22.2 No.14, No.60950-1 EN/VDE: EN50178 (=VDE0160), EN60950-1 (=VDE0805 Teil 1) SELV (EN60950/UL50178/UL60950-1) According to VDE0106/P100, IP20						
	SEMI		F47-0200 (200-VAC input)						
	Weight		550 g max.			850 g max.			

Note: Refer to page 5 for notes 1 to 11.

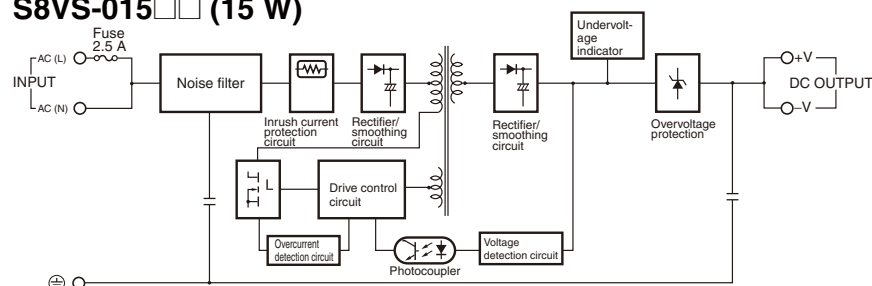
Power ratings		240 W			480 W			
Type		Standard	Maintenance forecast monitor	Total run time monitor	Standard	Maintenance forecast monitor	Total run time monitor	
Item								
Efficiency (typical)		80% min.			83% min.			
Input	Voltage (See note 1.)		100 to 240 VAC (85 to 264 VAC)					
	Frequency (See note 1.)		50/60 Hz (47 to 63 Hz)					
	Current	100-V input	3.8 A max.			7.4 A max.		
		200-V input	2.0 A max.			3.9 A max.		
	Power factor		0.95 min.					
	Harmonic current emissions		Conforms to EN61000-3-2					
	Leakage current	100-V input	0.5 mA max.					
		200-V input	1.0 mA max.					
	Inrush current (See note 2.)	100-V input	25 A max. (for a cold start at 25°C)					
		200-V input	50 A max. (for a cold start at 25°C)					
Output	Voltage adjustment range (See note 3.)		±10% (with V.ADJ) (guaranteed)			-10% to 15% (with V.ADJ) (guaranteed)		
	Ripple		2.0% (p-p) max. (at rated input/output voltage)					
	Input variation influence		0.5% max. (at 85 to 264 VAC input, 100% load)					
	Load variation influence (rated input voltage)		1.5% max. (with rated input, 0 to 100% load)					
	Temperature variation influence		0.05%/°C max.					
	Startup time (See note 2.)		1,000 ms max. (at rated input/output voltage)					
	Hold time (See note 2.)		20 ms min. (at rated input/output voltage)					
	Additional functions	Overload protection (See note 2.)		105% to 160% of rated load current, voltage drop, automatic reset				
Overvoltage protection (See notes 2 and 4.)		Yes						
Output voltage indication (See note 5.)		No	Yes (selectable) (See note 6.)		No	Yes (selectable) (See note 6.)		
Output current indication (See note 5.)		No	Yes (selectable) (See note 7.)		No	Yes (selectable) (See note 7.)		
Peak-hold current indication (See note 5.)		No	Yes (selectable) (See note 8.)		No	Yes (selectable) (See note 8.)		
Maintenance forecast monitor indication (See note 5.)		No	Yes (selectable)	No	Yes (selectable)		No	
Maintenance forecast monitor output		No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	No	Yes (transistor output), 30 VDC max., 50 mA max.		No	
Total run time monitor indication (See note 5.)		No		Yes (selectable)	No	Yes (selectable)		
Total run time monitor output (See note 5.)		No		Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)	No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)		
Undervoltage alarm indication (See note 5.)		No	Yes (selectable)		No	Yes (selectable)		
Undervoltage alarm output terminals		No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)		No	Yes (transistor output), 30 VDC max., 50 mA max. (See note 9.)		
Parallel operation		No						
Series operation		Yes for up to 2 Power Supplies (with external diode)						
Other	Operating ambient temperature		Refer to the derating curve in <i>Engineering Data</i> (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models). (with no icing or condensation)					
	Storage temperature		-25 to 65°C					
	Operating ambient humidity		25% to 85% (Storage humidity: 25% to 90%)					
	Dielectric strength		3.0 kVAC for 1 min. (between all inputs and outputs/ alarm 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/ alarm outputs and PE terminals; detection current: 240 W, 20 mA/ 480 W, 30 mA) 500 VAC for 1 min. (between all outputs and alarm outputs; detection current: 20 mA)					
	Insulation resistance		100 MΩ min. (between all outputs/ alarm 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 10 to 150 Hz, 0.35-mm single amplitude (5 G max.) for 80 min each in X, Y, and Z directions: 240 W 10 to 150 Hz, 0.35-mm single amplitude (3 G max.) for 80 min each in X, Y, and Z directions: 480 W					
	Shock resistance		150 m/s ² , 3 times each in ±X, ±Y, and ±Z directions					
	Output indicator		Yes (color: green)					
	EMI	Conducted Emissions	Conforms to EN61204-3 EN55011 Class A and based on FCC Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)			Conforms to EN61204-3 EN55011 Class A and based on FCC Class A Conforms to EN61204-3 EN55011 Class B (See note 11.)		
		Radiated Emissions	Conforms to EN61204-3 EN55011 Class A Conforms to EN61204-3 EN55011 Class B (See note 10.)			Conforms to EN61204-3 EN55011 Class A Conforms to EN61204-3 EN55011 Class B (See note 11.)		
	EMS		Conforms to EN61204-3 high severity levels					
	Approved standards		UL: UL508 (Listing), UL60950-1 cUL: CSA C22.2 No.14, cUR: CSA C22.2 No. 60950-1, EN/VDE: EN50178 (=VDE0160), SELV (EN60950/UL50178/UL60950-1) According to VDE0106/P100, IP20			UL: UL508 (Listing), UL60950-1 cUL: CSA C22.2 No.107.1, cUR: CSA C22.2 No. 60950-1, EN/VDE: EN50178 (=VDE0160), EN60950-1 (VDE0805 Teil 1) SELV (EN60950/UL50178/UL60950-1) According to VDE0106/P100, IP20		
	SEMI		F47-0200 (200-VAC input)					
	Weight		1,150 g max.			1,700 g max.		

Note: Refer to page 5 for notes 1 to 11.

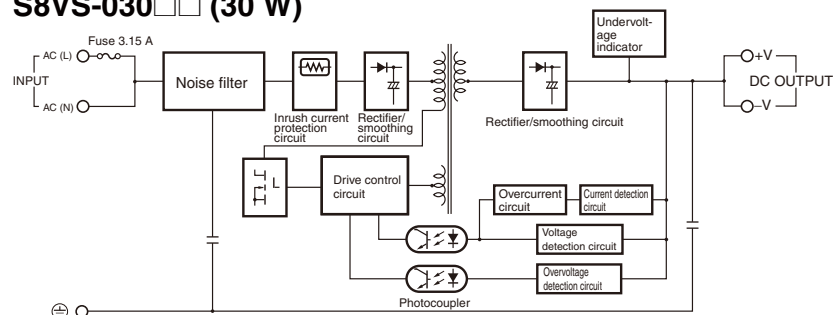
Connections

■ Block Diagrams

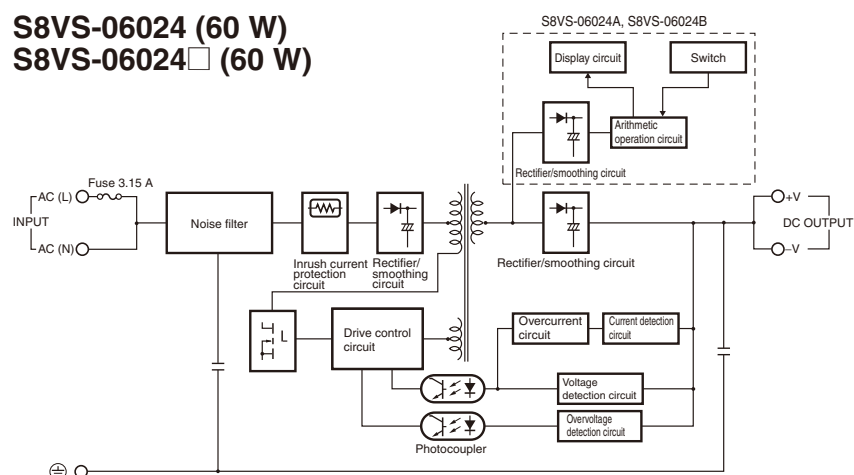
S8VS-015□□ (15 W)



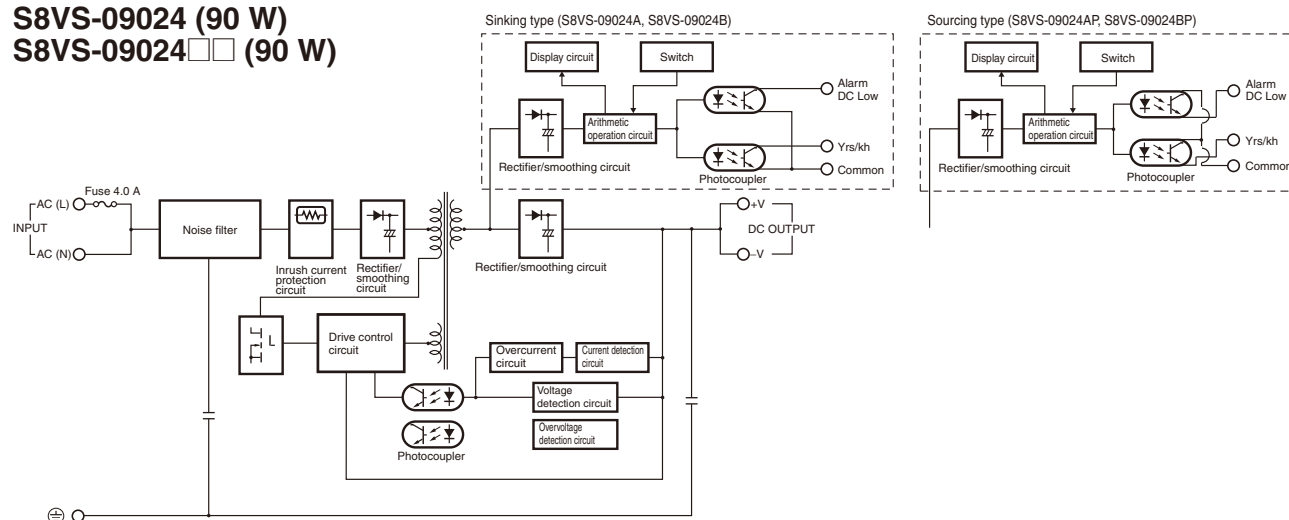
S8VS-030□□ (30 W)



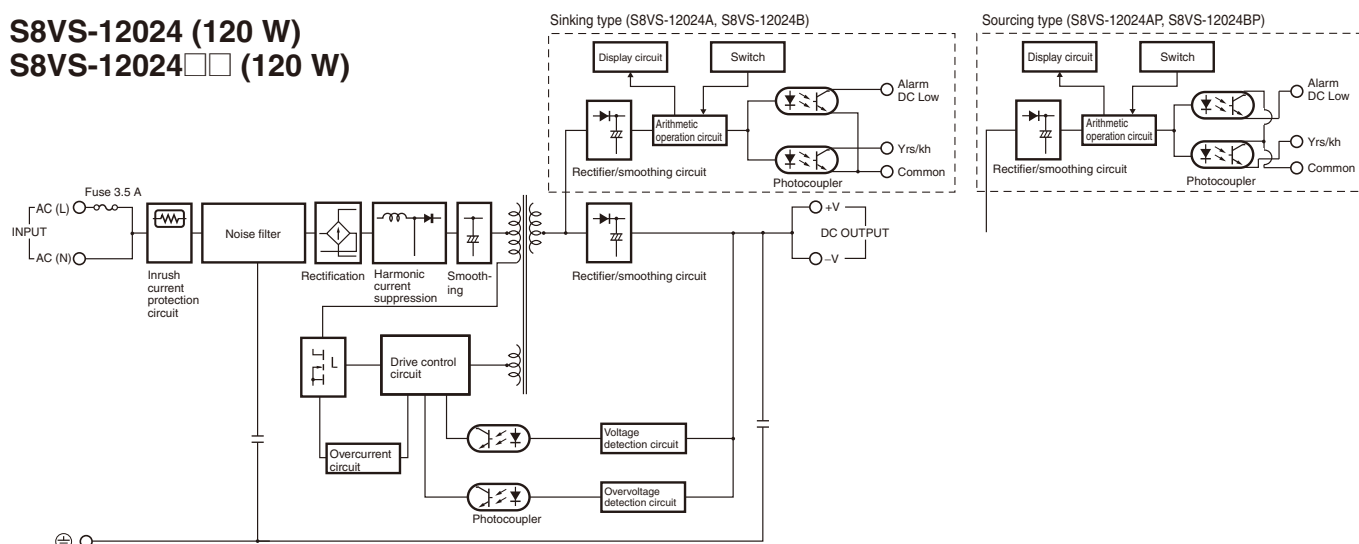
S8VS-06024 (60 W) S8VS-06024□ (60 W)



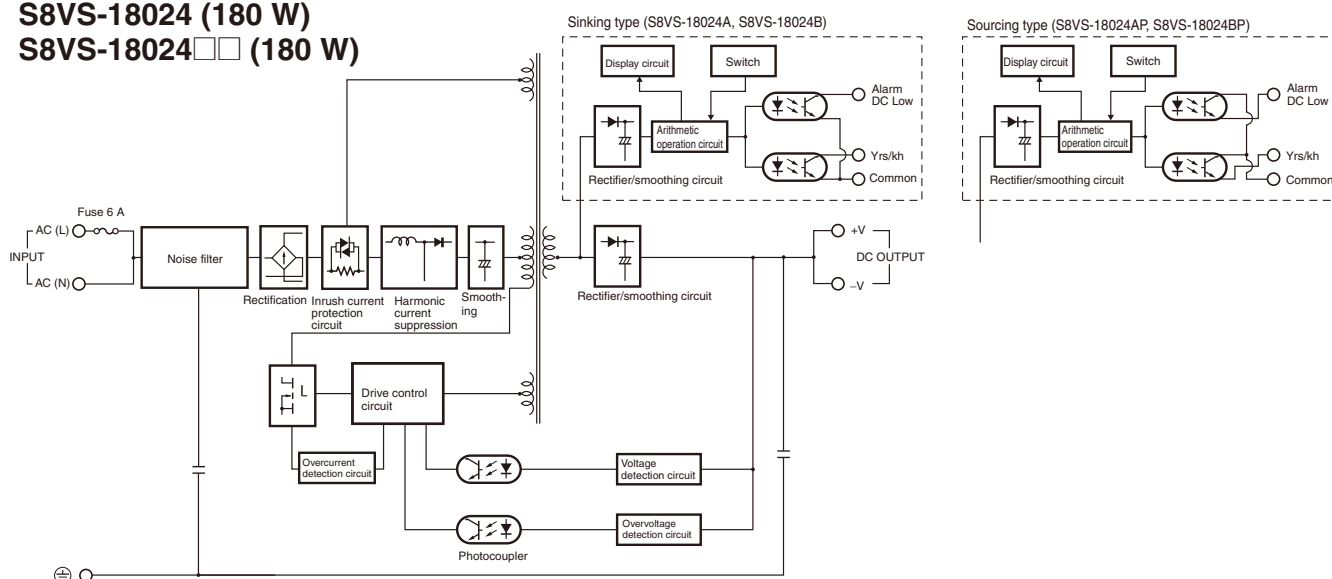
S8VS-09024 (90 W) S8VS-09024□□ (90 W)



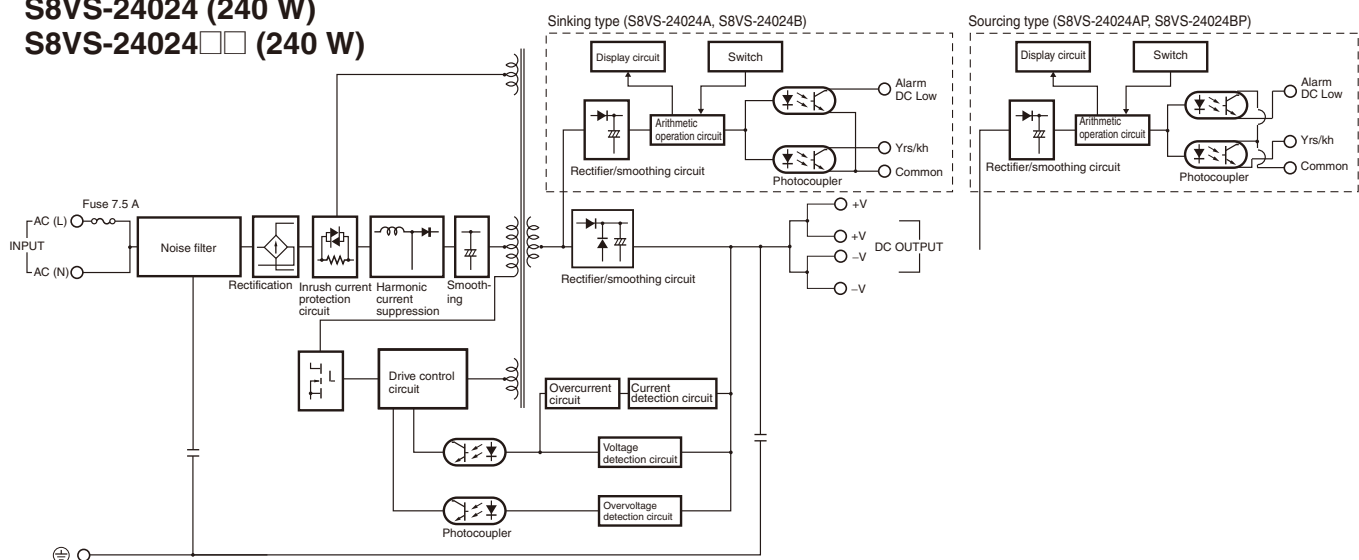
S8VS-12024 (120 W) S8VS-12024□□ (120 W)



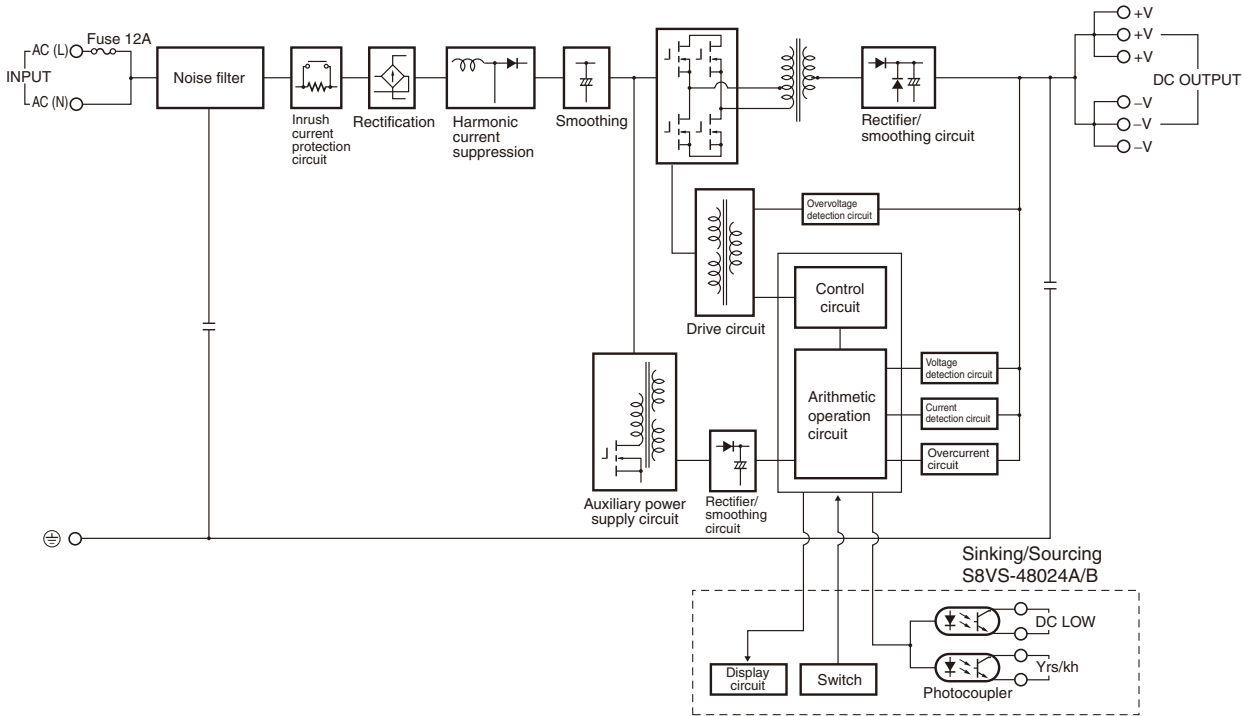
S8VS-18024 (180 W) S8VS-18024□□ (180 W)



S8VS-24024 (240 W) S8VS-24024□□ (240 W)



S8VS-48024 (480 W)
S8VS-48024□ (480 W)

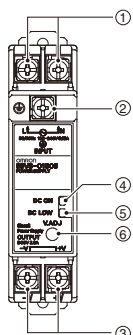


Construction and Nomenclature (15-W, 30-W Models)

■ Nomenclature

15-W, 30-W Models

S8VS-015□□/S8VS-030□□



No.	Name	Function
1	AC Input terminals (L), (N)	Connect the input lines to these terminals. (See note 1.)
2	Protective Earth terminal (PE)	Connect the ground line to this terminal. (See note 2.)
3	DC Output terminals (-V), (+V)	Connect the load lines to these terminals.
4	Output indicator (DC ON: Green)	Lights while a direct current (DC) output is ON.
5	Undervoltage indicator (DC LOW: Red)	Lights when a drop is detected in the output voltage.
6	Output voltage adjuster (V.ADJ)	Use to adjust the voltage.

Note: 1. The fuse is located on the (L) side. It is NOT user-replaceable.

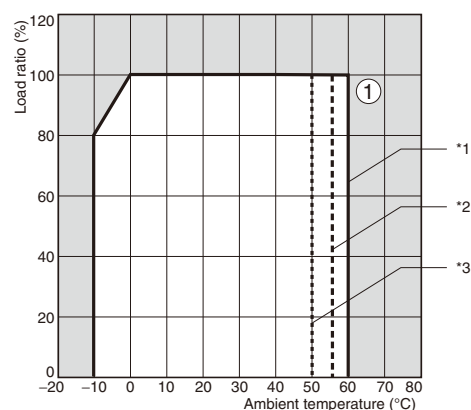
2. This is the protective earth terminal specified in the safety standards. Always ground this terminal.

Note: The S8VS-01505 is shown above.

Engineering Data (15-W, 30-W Models)

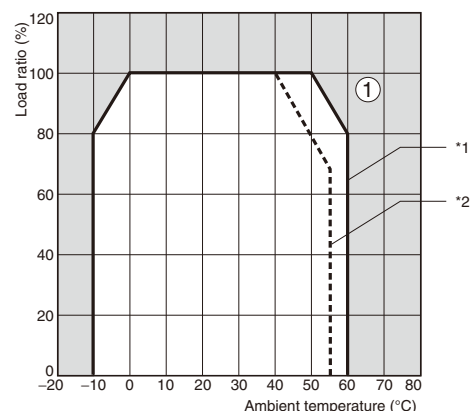
■ Derating Curve

S8VS-015□□



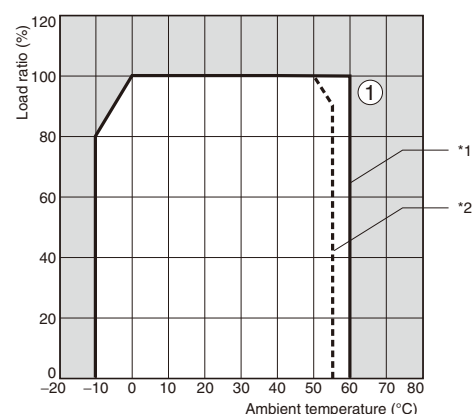
- *1 Standard mounting
- *2 Face-up mounting
- *3 Horizontal mounting

S8VS-03005/S8VS-03012



- *1 Standard mounting
- *2 Face-up mounting/Horizontal mounting

S8VS-03024

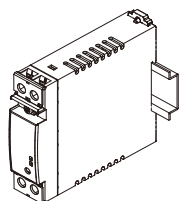


- *1 Standard mounting
- *2 Face-up mounting/Horizontal mounting

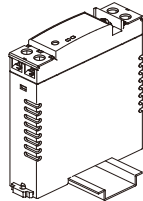
- Note:** 1. Internal parts may occasionally deteriorate or be damaged. Do not use the Power Supply in areas outside the derating curve (i.e., the area shown by shading ① in the above graph).
2. If there is a derating problem, use forced air-cooling.
3. Provide a space of at least 20 mm when using standard mounting and horizontal mounting. If 20 mm is not available, make sure that the space is at least 10 mm. In this case, reduce the corresponding derating curve by 5°C.

■ Mounting

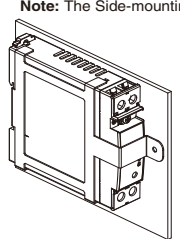
Standard mounting with DIN rail



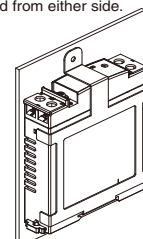
Face-up mounting with DIN rail



Standard mounting with S82Y-VS30P

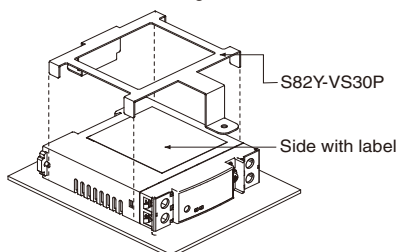


Face-up mounting with S82Y-VS30P



Note: The Side-mounting Bracket can be mounted from either side.

Horizontal mounting with S82Y-VS30P*



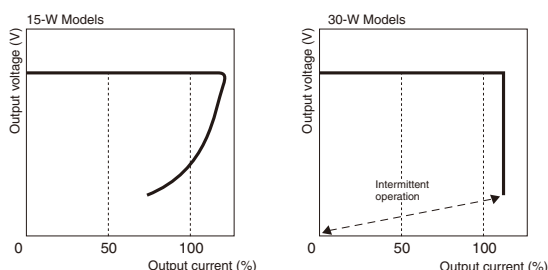
- Note:**
1. Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the Product within the derating curve for the mounting direction that is used. Do not use the Power Supply mounted in any way not shown above.
 2. Use a mounting bracket (S82Y-VS30P, sold separately) when the Product is mounted horizontally.
 3. Heat dissipation will be adversely affected. When the Product is mounted facing horizontally, always place the side with the label facing horizontally.
 4. Use PFP-M End Plates on the top and bottom of the Power Supply when mounting horizontally on a DIN rail.

■ Overload Protection

The load and the power supply are automatically protected from overcurrent damage by this function.

Overload protection is activated if the output current rises above 105% of the rated current.

When the output current returns within the rated range overload protection is automatically cleared.



The values shown in the above diagrams are for reference only.

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

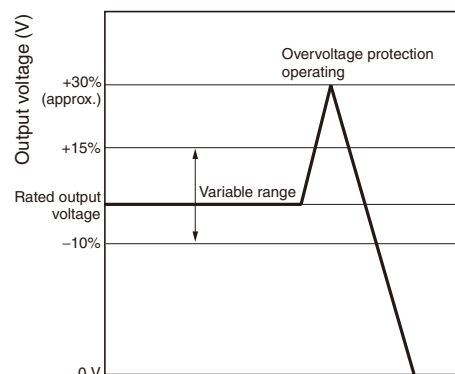
■ Overvoltage Protection

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.

This power supply automatically protects itself and the load from overvoltage.

Overvoltage protection is activated if the output voltage rises above approx. 130% of the rated output voltage.

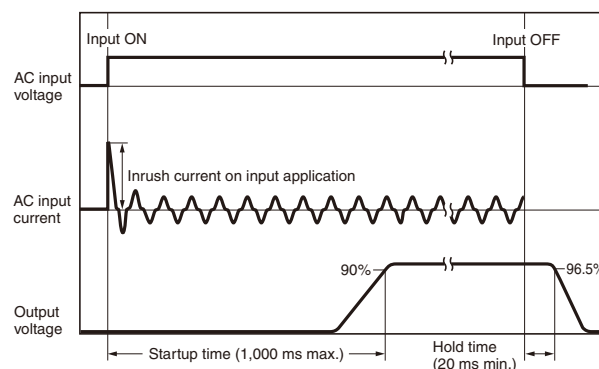
To reset the power supply, leave the power supply off for more than 3 minutes and then turn it on again.



The values shown in the above diagram is for reference only.

- Note:**
1. Do not turn ON the power again until the cause of the overvoltage has been removed.
 2. The overvoltage protection of the S8VS-015□□ uses a zener diode clamp. The output voltage will be clamped at approx. 140% or higher of the rated output voltage (approx. 140% to 190%). If the internal feedback circuit is destroyed by any chance, the load may be destroyed by the clamped output voltage (approx. 140% to 190% of the rated output voltage). The power Supply will not restart if the output is turned OFF by the overvoltage protection operation. If this occurs, replace the Power Supply.

■ Inrush Current, Startup Time, Output Hold Time



■ Undervoltage Alarm Indication

LED (DC LOW red) lights to warn of output voltage drop.

Detection voltage is set to approx. 80% (75 to 90%) of the rated output voltage.

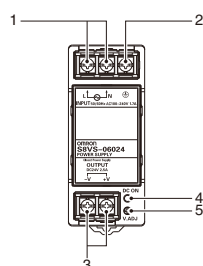
Note: This function monitors the voltage at the power supply output terminals. To check actual voltage, measure voltage on the load side.

Construction and Nomenclature (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)

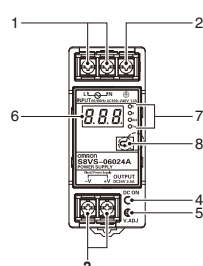
Nomenclature

60-W Models

Standard Model
S8VS-06024



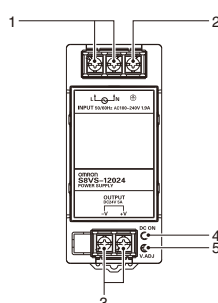
Models with Indication Monitor
S8VS-06024□



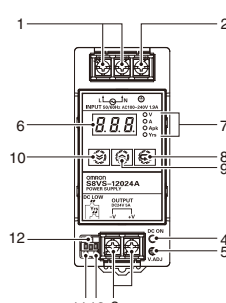
Note: The S8VS-06024A is shown above.

90-W/120-W Models

Standard Models
S8VS-09024/S8VS-12024



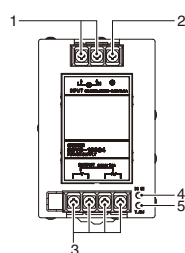
Models with Indication Monitor
S8VS-09024□/S8VS-12024□



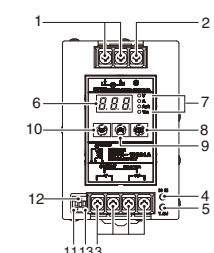
Note: The S8VS-12024A is shown above.

180-W Models

Standard Model
S8VS-18024



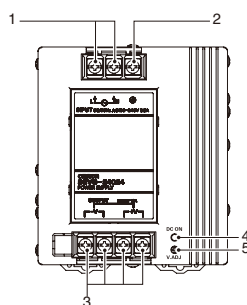
Models with Indication Monitor
S8VS-18024□



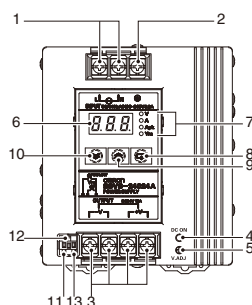
Note: The S8VS-18024A is shown above.

240-W Models

Standard Model
S8VS-24024



Models with Indication Monitor
S8VS-24024□



Note: The S8VS-24024A is shown above.

No.	Name	Function
1	AC Input terminals (L), (N)	Connect the input lines to these terminals. (See note 1.)
2	Protective Earth terminal (PE)	Connect the ground line to this terminal. (See note 2.)
3	DC Output terminals (-V), (+V)	Connect the load lines to these terminals.
4	Output indicator (DC ON: Green)	Lights while a direct current (DC) output is ON.
5	Output voltage adjuster (V.ADJ)	Use to adjust the voltage.
6	Main display (Red) (See note 3.)	Indicates the measurement or set value.
7	Operation indicator (Orange) (See note 3.)	<div>V</div> <div>A</div> <div>Apk</div> <div>Yrs</div> <div>kh</div> <div>Lights up when the output voltage is indicated. Blinks during setup of undervoltage alarm value.</div> <div>Lights up during indication of output current.</div> <div>Lights up during indication of peak hold current.</div> <div>Lights up during indication of maintenance forecast monitor. Blinks during setup of maintenance forecast monitor setting. (S8VS-□□□24A□)</div> <div>Lights up during indication of total run time monitor. Blinks during setup of total run time monitor. (S8VS-□□□24B□)</div>
8	Mode Key (See note 3.)	Use the Mode Key to change the indicated parameter or reset the peak hold current value.
9	Up Key (See note 4.)	Use the Up Key to change to the setting mode or to increase the set value.
10	Down Key (See note 4.)	Use the Down Key to change to the setting mode or to decrease the set value.
11	Alarm outputs (See notes 4 and 5.)	Undervoltage output terminal (DC Low) Output when a drop is detected in the output voltage (voltage drop = transistor OFF).
12	Maintenance Forecast output terminal (Yrs) (See note 6.)	Output when the set value for maintenance is reached (transistor OFF).
	Total run time output terminal (kh) (See note 7.)	Output when the set value for total run time is reached (transistor OFF).
13	Common terminal	Common terminal (emitter) for terminals 11 and 12.

Note: 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.

3. S8VS-□□□24A□/B□ only.

4. S8VS-□□□24A□/B□ only (excluding S8VS-06024□).

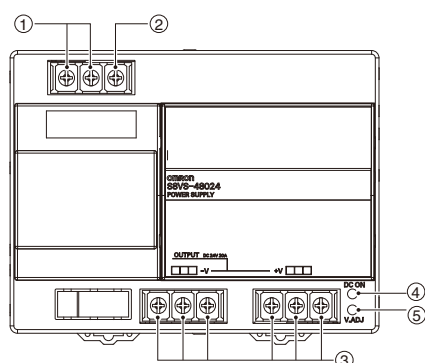
5. Both sinking and sourcing outputs are available.

6. S8VS-□□□24A□ only (excluding S8VS-06024A).

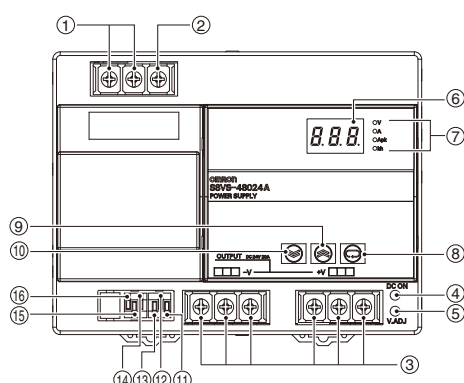
7. S8VS-□□□24B□ only (excluding S8VS-06024B).

480-W Models

Standard Model S8VS-48024



Models with Indication Monitor S8VS-48024□



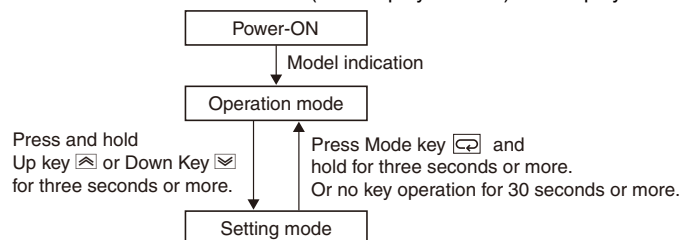
Note: The illustration shows the S8VS-48024A model.

No.	Name	Function
1	AC Input terminals (L), (N)	Connect the input lines to these terminals. (See note 1.)
2	Protective Earth terminal (PE)	Connect the ground line to this terminal. (See note 2.)
3	DC Output terminals (-V), (+V)	Connect the load lines to these terminals.
4	Output indicator (DC ON: Green)	Lights while a direct current (DC) output is ON.
5	Output voltage adjuster (V.ADJ)	Use to adjust the voltage.
6	Main display (Red) (See note 3.)	Indicates the measurement or set value.
7	Operation indicator (Orange) (See note 3.)	V Lights up when the output voltage is indicated. Blinks during setup of undervoltage alarm value.
		A Lights up during indication of output current.
		Apk Lights up during indication of peak hold current.
		Yrs Lights up during indication of maintenance forecast monitor. Blinks during setup of maintenance forecast monitor setting. (S8VS-48024A)
		kh Lights up during indication of total run time monitor. Blinks during setup of total run time monitor. (S8VS-48024B)
8	Mode Key (See note 3.)	Use the Mode Key to change the indicated parameter or reset the peak hold current value.
9	Up Key (See note 3.)	Use the Up Key to change to the setting mode or to increase the set value.
10	Down Key (See note 3.)	Use the Down Key to change to the setting mode or to decrease the set value.
11	Alarm outputs (See note 3.)	Undervoltage output terminal (DC Low) (Emitter side)
12		Undervoltage output terminal (DC Low) (Collector side)
13	Maintenance Forecast output terminal (Yrs) (See note 4.)	(Emitter side)
		(Collector side)
14	Maintenance Forecast output terminal (Yrs) (See note 4.)	(Emitter side)
		(Collector side)
15	Total run time output terminal (kh) (See note 5.)	(Emitter side)
		(Collector side)
16	NC (Not connected)	

- Note:** 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.
3. S8VS-48024A/B only.
4. S8VS-48024A only.
5. S8VS-48024B only.

■ Mode Change (S8VS-□□□24□□ Only)

S8VS-□□□24A□ models (with display monitor) can display the output voltage, output current, peak hold current, or maintenance forecast monitor time. S8VS-□□□24B□ models (with display monitor) can display the output voltage, output current, peak hold current, or total run time.

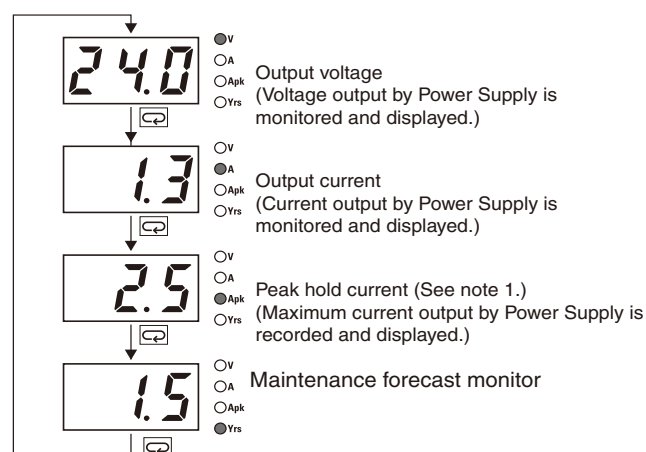


Note: No setting mode is provided for the S8VS-06024□.

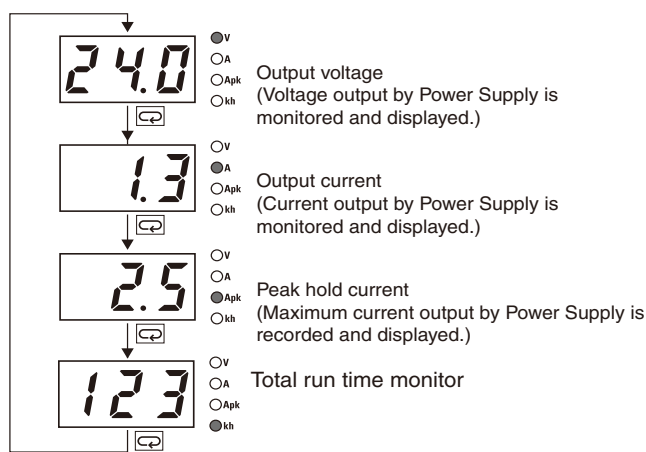
■ Operation Mode

Various states of the Power Supply are indicated.

Models with Maintenance Forecast Monitor (S8VS-□□□24A□)



Models with Total Run Time Monitor (S8VS-□□□24B□)



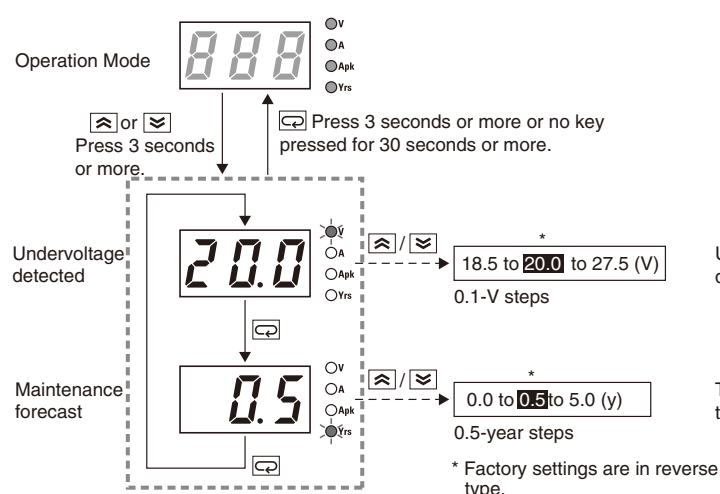
Note: 1. The peak hold current starts measuring the current 3 seconds after the Power Supply is started. Inrush current is thus not measured.

2. For the factory setting, the output voltage will be displayed when the power supply is first turned ON. Thereafter, the output voltage will be indicated in the same display when shutting down.

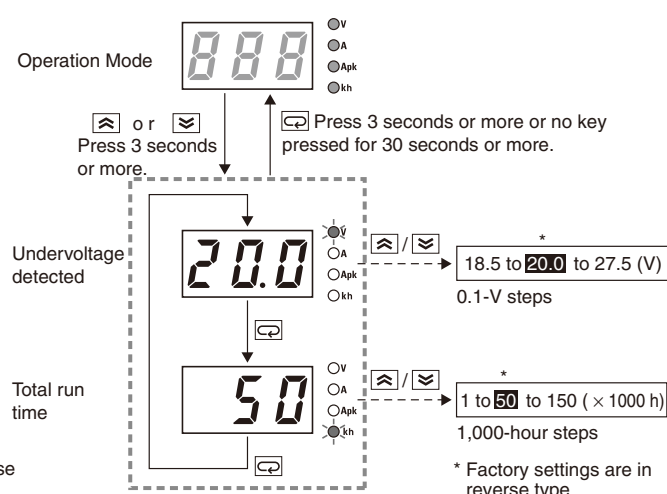
■ Setting Mode (Except for S8VS-06024□)

Set various parameters of the Power Supply.

Models with Maintenance Forecast Monitor (S8VS-□□□24A□)



Models with Total Run Time Monitor (S8VS-□□□24B□)

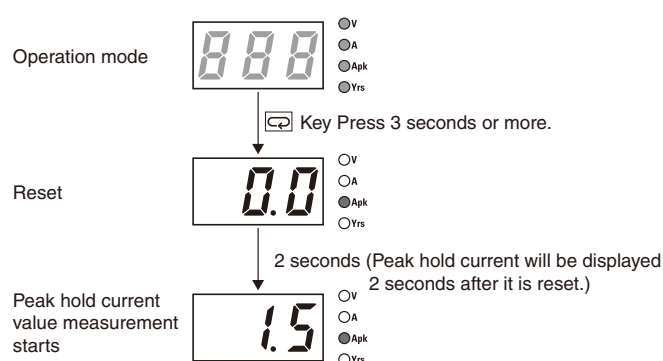


Note: 1. Press and hold the (9) Up Key (▲) or (10) Down Key (▼) for two seconds or more to increase or decrease the value rapidly.

2. The S8VS-06024□ is not provided with the setting mode and its parameters are fixed at the shipment setting.

■ Peak Hold Current Reset

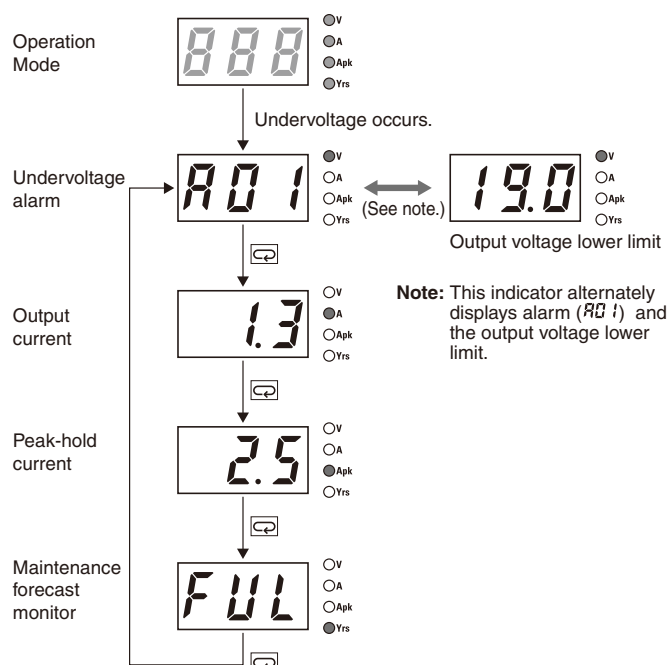
The peak value of the output current (i.e., the peak hold current) can be reset on the display.



Note: The peak hold current value is not reset in the setting mode.

■ Undervoltage Alarm Indication

This indicator lights when the output voltage lowers.

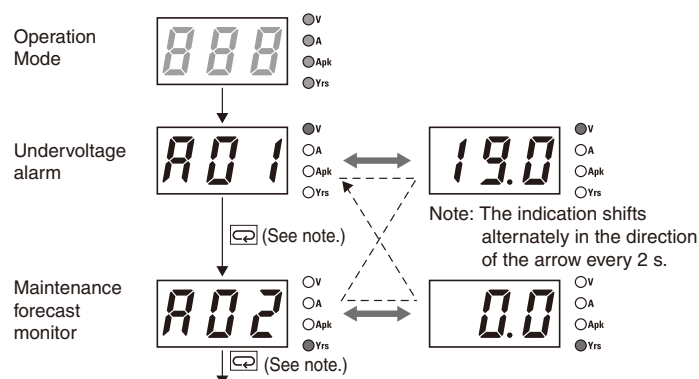


Note: 1. When the voltage is restored to the set value or higher and the Key is pressed at the AO1 display to return to the output current display, the AO1 alarm will be cleared and the normal output display will return.

2. The above displays are for models with a maintenance forecast monitor (S8VS-□□□24A□).

■ Multiple Alarms

When two or more different alarms occur at the same time





Note: 1. When undervoltage alarm is indicated: Press Key → output load indication
When the maintenance forecast monitor or overheat alarm is indicated: Press Key → undervoltage alarm indication

2. The above displays are for models with a maintenance forecast monitor (S8VS-□□□24A□).

■ Self-Diagnostics Function

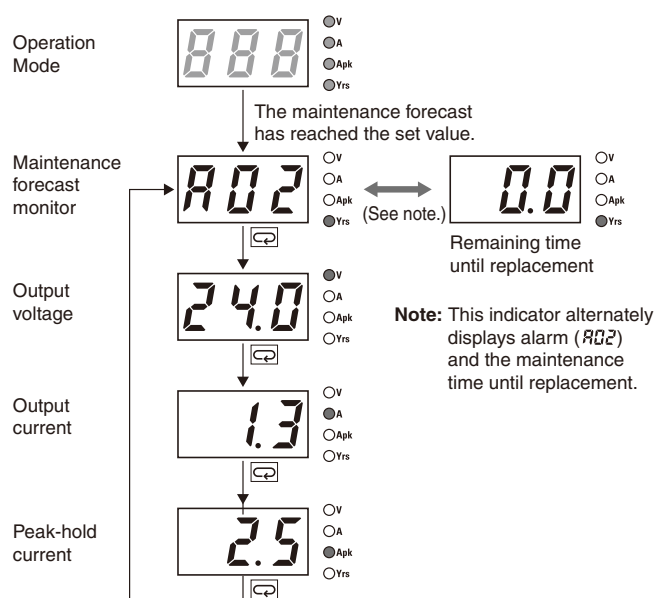
Numbers in the following table indicate the number used in *Nomenclature* on pages 11, 14 and 15.

(6) Main display	Description	Output status	Restoration method	Setting after restoration
---	Noise detected in voltage or current	No change	Automatic reset.	No change
Hot	Overheated	Maintenance forecast output terminal (Yrs) turns OFF.	Automatic reset.	No change
E01	Undervoltage alarm set value memory error	Undervoltage output terminal (DC LOW) turns OFF.	Press and hold the Up Key  (9) or Down Key  (10) for three seconds and check the set value of the corresponding point. The set value must return to the shipment setting	Shipment setting or value set in the setting mode again
E02	Memory error of alarm set value of maintenance forecast monitor or total run time monitor	Maintenance forecast output terminal (Yrs) turns OFF or total run time output terminal (kh) turns OFF.		
E03	Other memory error	Undervoltage output terminal (DC LOW) turns OFF. Maintenance forecast output terminal (Yrs) turns OFF or total run time output terminal (kh) turns OFF.	Turn the AC input OFF then ON again. If the Product is not reset, contact the dealer.	No change
E04, E05	Hardware error (S8VS-48024A/B only)	Undervoltage output terminal (DC LOW) turns OFF. Maintenance forecast output terminal (Yrs) turns OFF or total run time output terminal (kh) turns OFF.	Turns the AC input OFF then ON again. If the Product is not reset, contact the dealer.	No change

- Note:**
1. External noise is probable as a cause of "---", "E01", "E02", "E03", "E04", and "E05" errors.
 2. Operation out of the derating curve area, ventilation error, and incorrect mounting direction are probable as a cause of "Hot" error.
 3. If the "Hot" error state continues for more than three hours, the maintenance forecast monitor function becomes invalid. The Yrs output (Maintenance forecast output terminal (Yrs)) will remain OFF (no continuity).
Replace the power supply if this condition occurs even if the output is correct, as internal parts may be deteriorated.
 4. The "Hot" error detection function is only for the S8VS-□□□24A□.

■ Maintenance Forecast (S8VS-□□□24A□)

Displays when the maintenance forecast has reached the set value.



■ Indication and Output

When the Product is purchased, "FUL" will be indicated. As electrolytic capacitors deteriorate, indication changes to "HL F" (Refer to page 19). "FUL" will be indicated for the maintenance forecast display for approximately one month after the Power Supply is first turned ON. The accumulated value will then be displayed depending on the ambient conditions thereafter. (However, the "HL F" indication may not appear, depending on the usage environment and the set value for maintenance forecast.)

S8VS-06024A:

After the remaining time to maintenance is reduced to less than two years, indication automatically changes to a value, which decreases from "1.5" to "1.0" to "0.5" to "0.0" (year) as the running hours increase. If the remaining time becomes less than 0.5 year, an alarm (A02) and "0.0" are indicated alternately.

S8VS-09024A□/S8VS-12024A□, S8VS-18024A□/S8VS-24024A□/S8VS-48024A:

If the maintenance forecast setting L (which can be set arbitrarily from 0.0 to 5.0 years in 0.5-year steps) is set to a value larger than two years, the indication automatically changes to a value (L - 0.5) after the remaining time to maintenance is reduced to the set years, and an alarm (A02) and the remaining time are indicated alternately.

If the setting is less than 2.0 years, the indication changes to a value (1.5) after the remaining time becomes less than two years, and after the remaining time becomes less than the set time, an alarm (A02) and the remaining time (L - 0.5) are indicated alternately.

If the alarm (A02) and a numeric value are indicated alternately, a transistor (maintenance forecast output terminal (Yrs)) will turn OFF to indicate the need for maintenance. (The transistor turns OFF when the maintenance forecast time is reached, i.e., there will be no continuity at the maintenance forecast output terminal.)



Note: 1. The remaining time to maintenance is based on continuous operation, not including the time when the power supply is turned OFF.

2. "FUL" will be indicated until approximately one month of time is accumulated to estimate the speed of deterioration and the output will remain ON (continuity at the maintenance forecast output terminal (Yrs)).

3. For details on the display, refer to *Relationship between Indicated Values and Output of Set Values* under *Maintenance Forecast Monitor Function* on page 19.

Maintenance Forecast Monitor Function

The Power Supply is equipped with electrolytic capacitors.

The electrolyte inside the electrolytic capacitor penetrates the sealing rubber and evaporates as time passes since it is manufactured, which causes deterioration of characteristics such as decreasing the capacitance, etc.

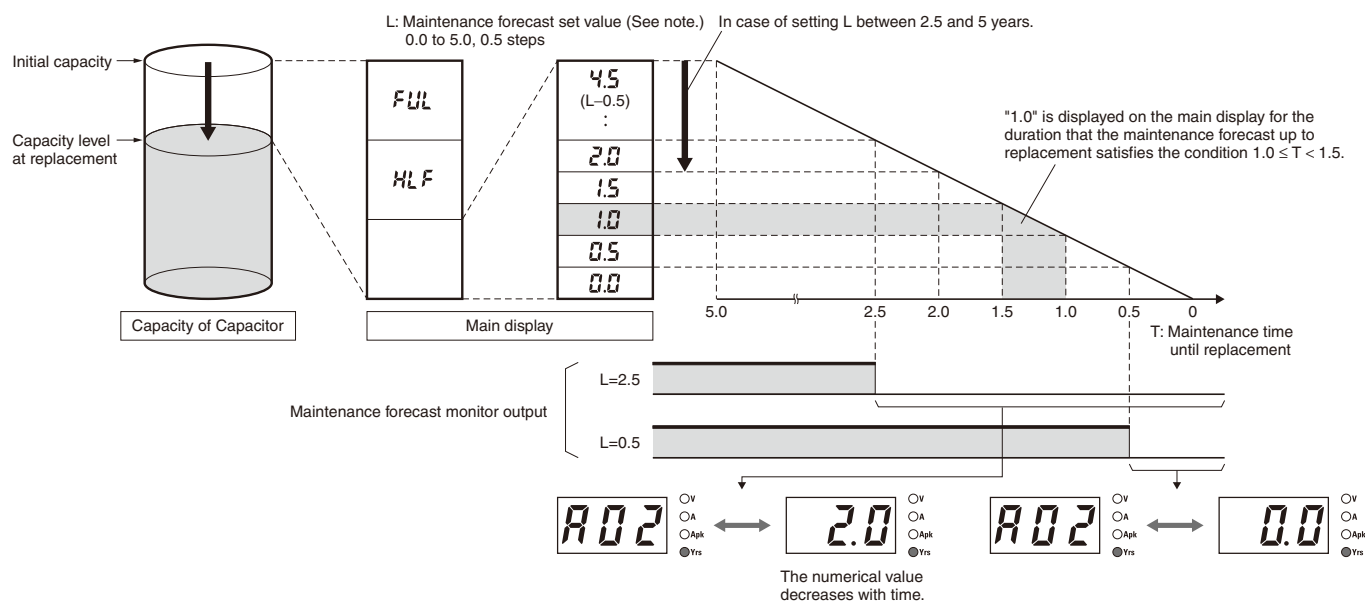
Due to this deterioration of the characteristics of the electrolytic capacitor, the Power Supply decreases its performance as time passes.

The maintenance forecast monitor function shows an approximate period left for maintenance of the Power Supply due to deterioration of electrolytic capacitors. When the period left for maintenance that the power supply forecasts reaches the set value, an alarm is indicated and an output signal is triggered.

Use this function to know the approximate replacement timing of the Power Supply.

Note: The maintenance forecast monitor function indicates an approximate period left for maintenance, based on deterioration of the electrolytic capacitor. It does not predict failures caused by other reasons.

Relationship between Indicated Values and Output of Set Values



Note: This function can be set only on the S8VS-09024A□, S8VS-12024A□, S8VS-18024A□, S8VS-24024A□, and S8VS-48024A.

Principle of Operation

The deterioration speed of the electrolytic capacitor varies considerably according to the ambient temperature. (Generally the speed follows "Rule of Two for every 10°C"; for every 10°C increase in temperature the rate of degradation doubles according to Arrhenius's equation.) The S8VS-□□□24A□ monitors the temperature inside the power supply, and calculates the amount of deterioration according to the running hours and inside temperature. Judging by this amount of deterioration, the power supply will give the alarm indication and output when the period left for maintenance reaches the set value.

- Note:**
1. Due to degradation of internal electronic parts, replace the power supply approximately 15 years after purchase even if indication and output of maintenance forecast monitor are not issued.
 2. The maintenance forecast is accelerated or decelerated according to operating conditions. Periodically check indication.
 3. Acceleration or deceleration of the maintenance forecast may cause the output to repeatedly go ON/OFF. Only the S8VS-09024A□, S8VS-12024A□, S8VS-18024A□, S8VS-24024A□, and S8VS-48024A are equipped with output.
 4. The accuracy of the maintenance forecast function may be adversely affected by applications in which the AC input is frequently turned ON/OFF.

Reference Values (15-W to 480-W Models)

Item	Value	Definition
Reliability (MTBF)	15 W to 240 W: 135,000 hrs min. 480 W: 60,000 hrs min.	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 the life of the Product.
Life expectancy	10 yrs. min.	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.

Note: The maintenance forecast is the service life (the power supply's internal temperature is monitored at all times) of the internal electrolytic capacitor in actual operating conditions, and varies according to the customer's operating conditions. 15 years is taken as the maximum period of the maintenance forecast.

■ Models with Total Run Time Monitor (S8VS-□□□24B□)

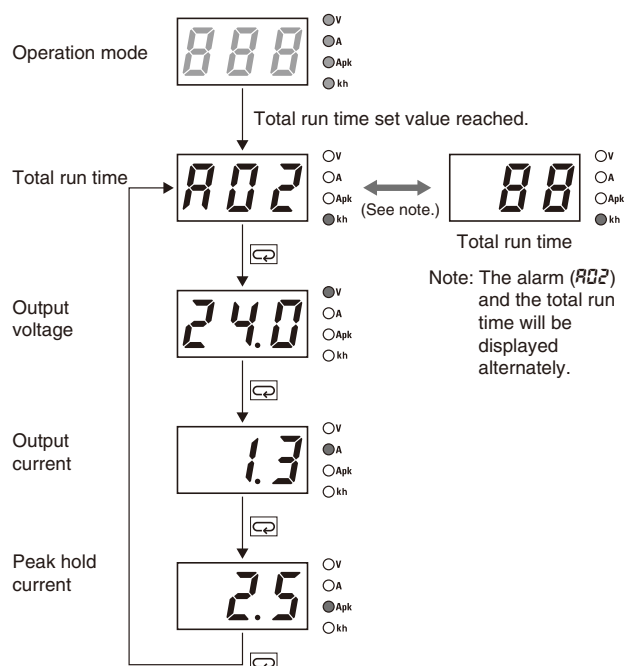
S8VS-06024B

The accumulated value of the operating time of the Power Supply is displayed as the total run time. 0 (kh) will be displayed initially after purchase and then the display will advance in 1-kh steps as the operating time accumulates. The S8VS-06024B, however, does not have an alarm function (setting, display, or output).

S8VS-09024B□/S8VS-12024B□/

S8VS-18024B□/S8VS-24024B□

The display will appear when the set value for the total run time has been reached.



The accumulated value of the operating time of the Power Supply is displayed as the total run time. 0 (kh) will be displayed initially after purchase and then the display will advance in 1-kh steps as the operating time accumulates. When the total run time reaches the alarm set value, the alarm (882) and the total run time will be displayed alternately and a transistor (total run time output terminal (kh)) will output the status externally.

(Alarm set value reached = OFF, i.e., no continuity at the total run time output terminal (kh))

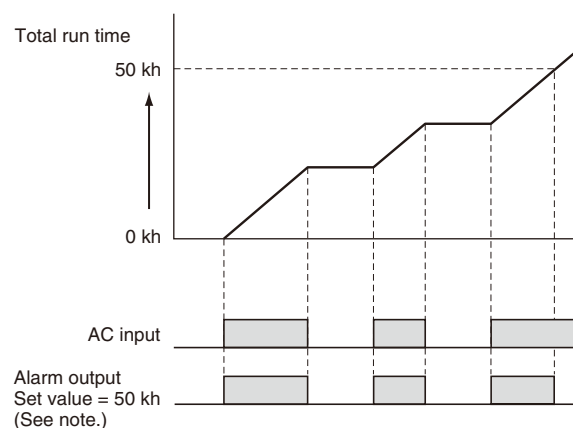
The alarm set value can be changed in the setting mode.

Example: Alarm Displays When a Total Run Time Set Value of 88 kh Is Reached



Note: The total run time cannot be reset. To clear the alarm, change the alarm set value to a value higher than the value displayed for the total run time.

Time Chart

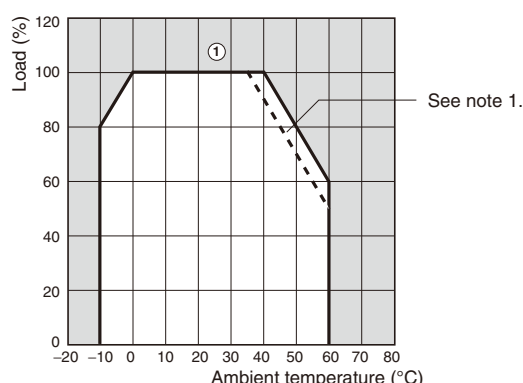


Note: Setting is possible for the following models only:
S8VS-09024B□, S8VS-12024B□, S8VS-18024B□,
S8VS-24024B□, S8VS-48024B

- Note:**
1. The total run time does not include the time that the Power Supply is OFF.
 2. The total run time measures the total time that power is being supplied and is not related in any way to deterioration in the electrolytic capacitor built into the Power Supply or to the effects of the ambient temperature.

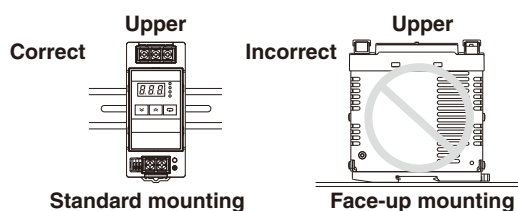
Engineering Data (60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)

Derating Curve



- Note: 1.** Using side mounting bracket for right-side mounting (excluding 240-W models).
- 2.** 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).
- 3.** If there is a derating problem, use forced air-cooling.
- 4.** When using a 480-W model at an input voltage of 95 VAC or less, derate the load by at least 80%.

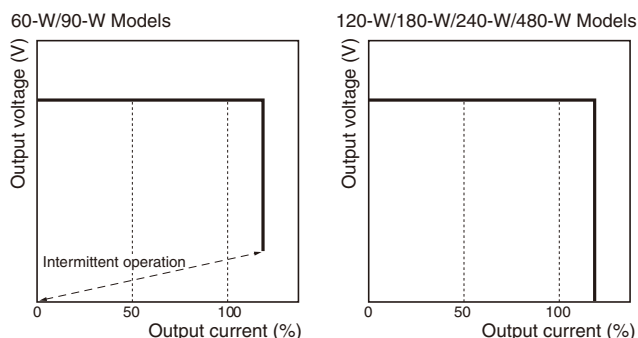
Mounting



Note: Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. It may also result in failure of the maintenance forecast monitor function. Use the standard mounting method only.

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.



The values shown in the above diagrams are for reference only.

- Note: 1.** Internal parts may occasionally deteriorate or be damaged if a short-circuited or overcurrent state continues during operation.
- 2.** 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.

Peak Output Current (S8VS-48024□ only)

The peak current must satisfy the following conditions.

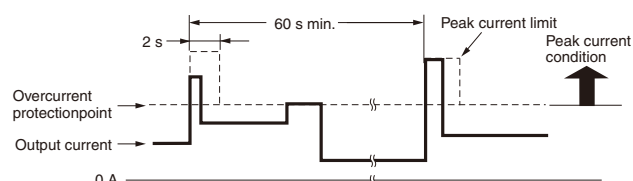
Input voltage range: 200 to 240 VAC

Peak current value: 30 A max.

Peak current pulse width: 2 s max.

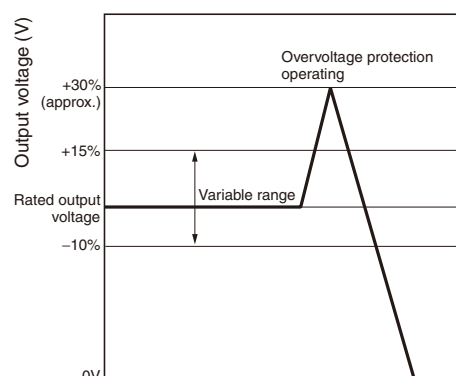
Cycle: 60 s min.

- Note: 1.** Two seconds after the peak current is reached, the peak current limiting function operates to stop the peak current flow.
- 2.** It takes 60 seconds for the peak current to be able to flow again.
- 3.** The peak current limiting function prevents the peak current from flowing at 100 to 120 VAC.



Overvoltage Protection

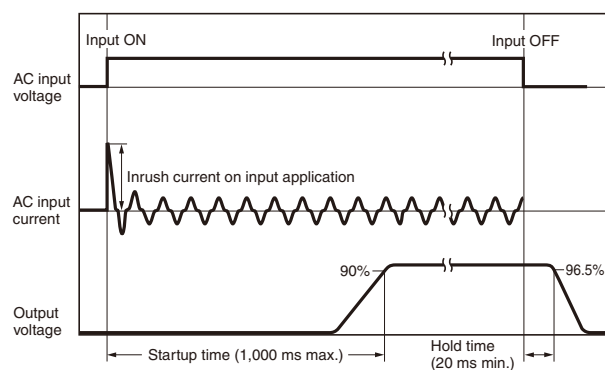
Consider the possibility of an overvoltage and design the system so that the load will not be subjected to an excessive voltage even if the feedback circuit in the Power Supply fails. When an excessive voltage that is approximately 130% of the rated voltage or more is output, the output voltage is shut OFF. Reset the input power by turning it OFF for at least three minutes and then turning it back ON again.



The values shown in the above diagram is for reference only.

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

■ Inrush Current, Startup Time, Output Hold Time



■ Undervoltage Alarm Function (Indication and Output) (S8VS-□□□24□□ Only)

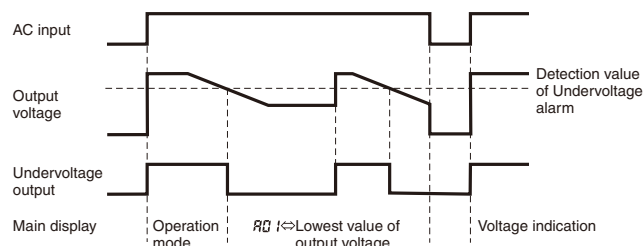
When output voltage drop is detected, an alarm (**RD I**) and lowest output voltage value are indicated alternately. The preset value of detection voltage can be changed in the setting mode. (From 18.5 to 27.5 V (18.5 to 26.3 V for the S8VS-24024□□), in 0.1-V steps. The value is fixed at 20.0 V for the S8VS-06024□.)

Further, an output (undervoltage output terminal (DC LOW)) to an external device is given from the transistor to notify of the error (excluding S8VS-06024□). (Output voltage drop = OFF, i.e., no continuity at the undervoltage output terminal (DC LOW).)

Example: Outputting an Alarm When the Voltage Output by the S8VS-09024□□ Drops to the Set Value (19.0 V) or Lower



- Note:**
1. Operation begins after about three seconds since the AC power is supplied.
 2. The alarm is not indicated in the setting mode.
 3. Press the (Mode Key (8)) after the output voltage is restored, to reset alarm indication.
 4. The undervoltage alarm function may also operate when an interruption in AC input is not restored within 20 ms.
 5. The undervoltage alarm function monitors the output terminal voltage of the Power Supply. To check the voltage accurately, measure the voltage at the load end.



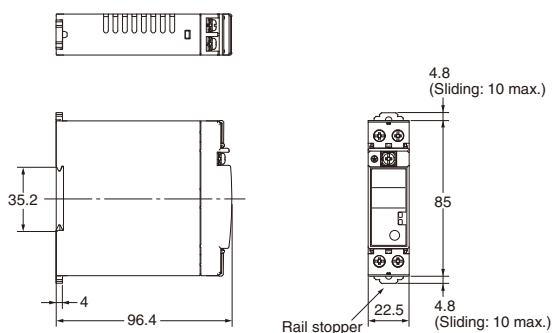
Note: Operation begins after about three seconds since the AC power is supplied.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

S8VS-015□□ (15 W)

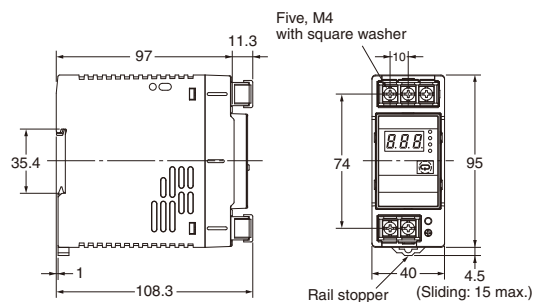
S8VS-030□□ (30 W)



Note: The illustration is the S8VS-03024 model.

S8VS-06024 (60 W)

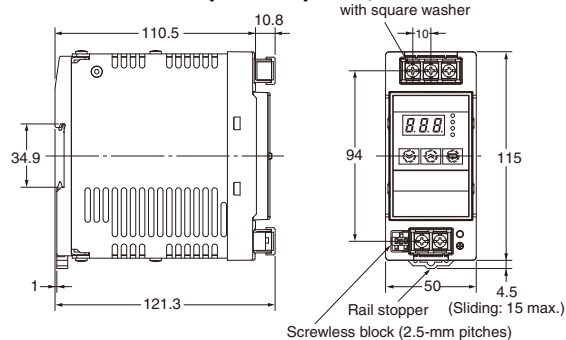
S8VS-06024□ (60 W)



Note: The illustration is the S8VS-06024A model.

S8VS-09024 (90 W)/**S8VS-12024** (120 W)

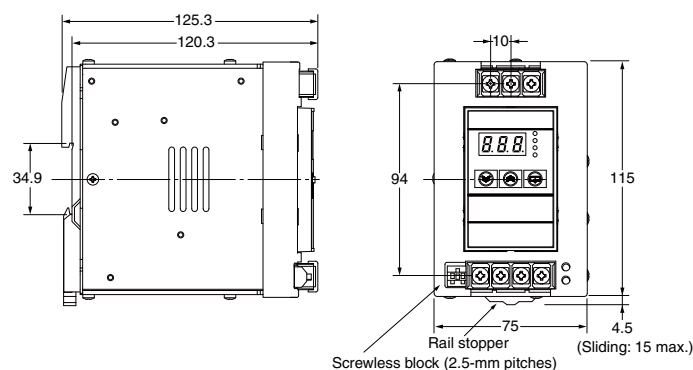
S8VS-09024□□ (90 W)/**S8VS-12024**□□ (120 W)



Note: The illustration is the S8VS-12024A model.

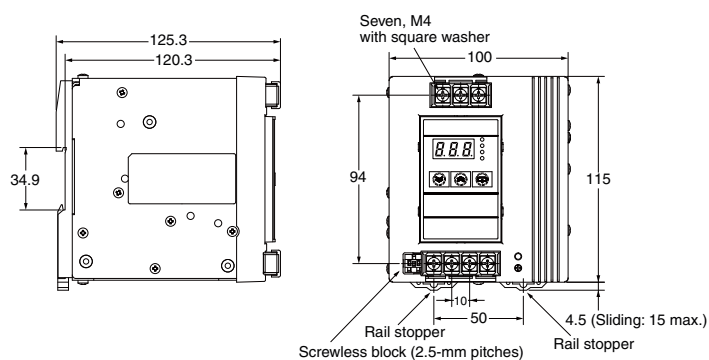
S8VS-18024 (180 W)

S8VS-18024□□ (180 W)



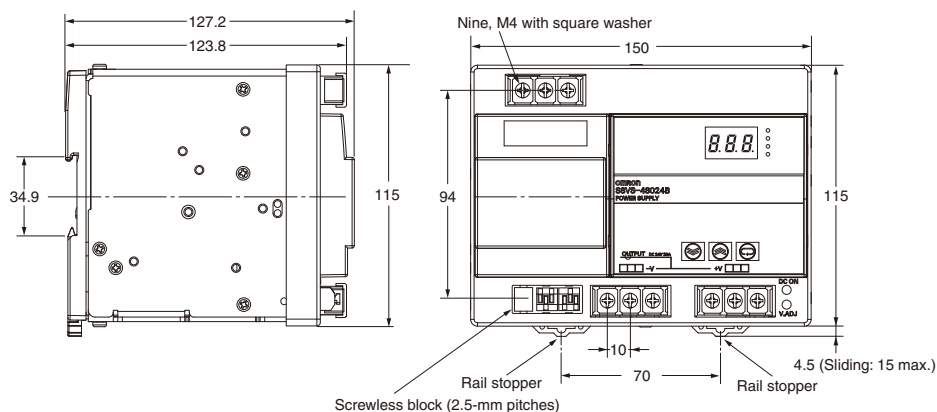
Note: The illustration is the S8VS-18024A model.

S8VS-24024 (240 W) S8VS-24024□ (240 W)



Note: The illustration shows the S8VS-24024A model.

S8VS-48024 (480 W) S8VS-48024□ (480 W)



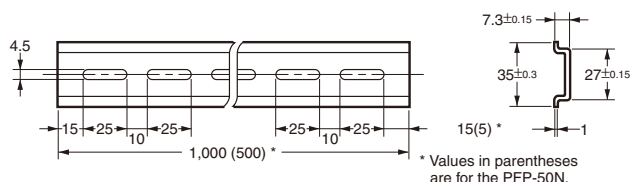
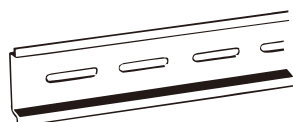
Note: The illustration shows the S8VS-48024A model.

■ DIN Rail (Order Separately)

Note: All units are in millimeters unless otherwise indicated.

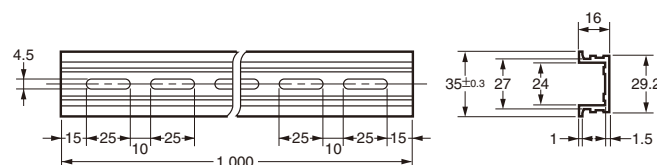
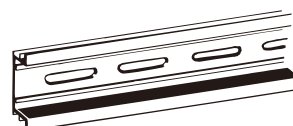
Mounting Rail (Material: Aluminum)

PFP-100N PFP-50N



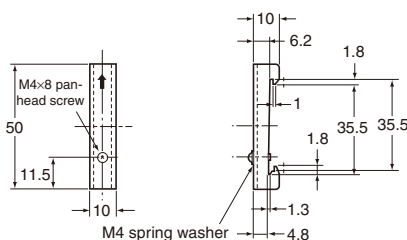
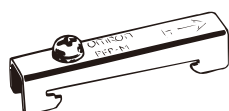
Mounting Rail (Material: Aluminum)

PFP-100N2



End Plate

PFP-M



Note: 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.

■ Mounting Brackets

Name	Model
Side-mounting Bracket (for 15- and 30-W models)	S82Y-VS30P
Side-mounting Bracket (for 60-, 90-, and 120-W models)	S82Y-VS10S
Side-mounting Bracket (for 180-W models)	S82Y-VS15S
Side-mounting Bracket (for 240-W models)	S82Y-VS20S
Front-mounting Bracket (for 60-, 90-, 120-, 180-, and 240-W models) (See note 1.)	S82Y-VS10F

Note: 1. Two required to mount a 240-W model.

2. Brackets cannot be used for 480-W models.

Type	Model	Dimensions	Appearance
Side-mounting Bracket (For 15-, 30-W models)	S82Y-VS30P		
Side-mounting Bracket (For 60-, 90-, 120-W models)	S82Y-VS10S		Left-side mounting Right-side mounting
Side-mounting Bracket (For 180-W models)	S82Y-VS15S		Left-side mounting *Right-side mounting also possible.
Side-mounting Bracket (For 240-W models)	S82Y-VS20S		Left-side mounting *Right-side mounting also possible.
Front-mounting Bracket (For 60-, 90-, 120-, 180-, and 240-W models)	S82Y-VS10F		(For 60-, 90-, 120-, 180-W types) (For 240-W type) *Use two S82Y-VS10F brackets for the 240-W type.

Safety Precautions

CAUTION

Minor electric shock, fire, or Product failure may occasionally occur. Do not disassemble, modify, or repair the Product or 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 (15- and 30-W models: 0.8 to 1.0 N·m/60-, 90-, 120-, 180-, 240-, and 480-W models: 1.08 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.

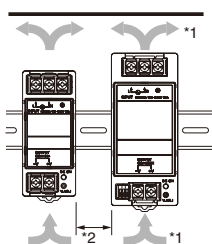


Precautions for Safe Use

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.

When cutting out holes for mounting, make sure that cuttings do not enter the interior of the Products.



*1. Convection of air
*2. 20 mm min.

(15-W and 30-W Models)

Improper mounting will interfere with heat dissipation and may occasionally result in deterioration or damage of internal parts. Use the Product within the derating curve for the mounting direction that is used.

Use a mounting bracket when the Product is mounted facing horizontally.

Heat dissipation will be adversely affected. When the Product is mounted facing horizontally, always place the side with the label facing upward.

Always provide a space of 20 mm even when mounting horizontal or facing horizontal. If a space of 20 mm is not available, reduce the temperatures given in the derating curve on page 11 by 5°C and provide a space of at least 10 mm.

(60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models)

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.

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 100-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 S8VS to prevent smoking or ignition caused by abnormal loads.

Recommended Wire Type

15-W and 30-W Models

Model	Stranded wire	Solid wire
S8VS-03005	AWG18 to 14 (0.9 to 2.0 mm ²)	AWG18 to 16 (0.9 to 1.1 mm ²)
Other models	AWG20 to 14 (0.5 to 2.0 mm ²)	AWG20 to 16 (0.5 to 1.1 mm ²)

60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models

Model	Recommended wire size	
	For screw terminal	For alarm output terminal
S8VS-06024□	AWG14 to 20 (Cross section 0.517 to 2.081 mm ²)	---
S8VS-09024□□ S8VS-12024□□ S8VS-18024□□ S8VS-24024□□	AWG14 to 18 (Cross section 0.823 to 2.081 mm ²)	AWG18 to 28 (Cross section 0.081 to 0.823 mm ²) (Wires to be stripped: 9 to 10 mm)
S8VS-48024□	Input terminals AWG 14 to 16 (Cross section 1,309 to 2,081 mm ²) Output terminal (see note.) AWG 14 (Cross section 2,081 mm ²)	

Note: The rated current for output terminals is 10 A per terminal. Be sure to use multiple terminals simultaneously for current that exceeds the terminal rating.

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.

Operating Life

The life of a Power Supply is determined by the life of the electrolytic capacitors used inside. Here, Arrhenius Law applies, i.e., the life will be cut in half for each rise of 10°C or the life will be doubled for each drop of 10°C. The life of the Power Supply can thus be increased by reducing its internal temperature.

Ambient Operating and Storage Environments

Store the Power Supply at a temperature of -25 to 65°C and a humidity of -25% to 90%.

Do not use the Power Supply in areas outside the derating curve otherwise, internal parts may occasionally deteriorate or be damaged.

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 Products.

S8VS-□□□24A□ Models only

Satisfy the following conditions when storing the Power Supply for long periods of time to maintain its remaining service life function.

- When storing for more than three months, store within an ambient temperature range of -25 to +30°C and the humidity range of 25% to 70%.

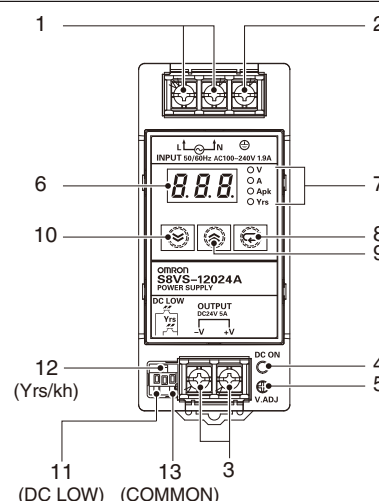
Periodic Check (S8VS-09024□□, S8VS-12024□□, S8VS-18024□□, S8VS-24024□□, and S8VS-48024□ only)

It may take from several years to more than 10 years under general operating conditions for the power supply to output the maintenance forecast monitor alarm (S8VS-□□□24A□). The total run time monitor (S8VS-□□□24B□) may be a similar number of years as the maintenance forecast monitor according to some settings. During operation over an extended period of time, periodically check if the maintenance forecast monitor output (Yrs) or total run time monitor output (kh) is correctly functioning by the following procedure.

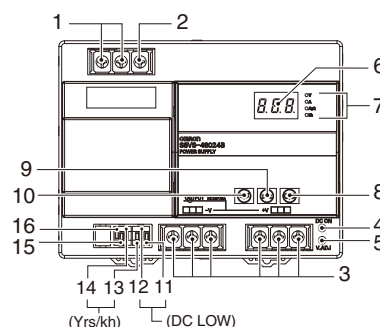
- Select the operation mode.
- Check that the output (Yrs/kh) is turned ON (with continuity).
- In the operation mode, press and hold the Down Key (10) and the Mode Key (8) simultaneously for at least three seconds. The main display (6) changes to "RD2". An inactive output (Yrs/kh) (no continuity) in the "RD2" indication indicates the correct function.
- Release keys to return to the regular state.

Note: DC output stays ON during the periodical check.

60-, 90-, 120-,
180-, 240-W
Models



480-W Models



Overcurrent Protection

Internal parts may possibly 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.

Alarm Output (S8VS-09024□□, S8VS-12024□□, S8VS-18024□□, S8VS-24024□□, and S8VS-48024□ Only)

When using the alarm output, sufficiently consider the maximum ratings, residual voltage, and leakage current.

Transistor output: Sinking for S8VS-□□□24□ models
Sourcing for S8VS-□□□24□P models
Sinking/Sourcing for S8VS-48024A/B models

30 VDC max., 50 mA max.
ON residually voltage: 2 V max.
OFF leakage current: 0.1 mA max.

Dielectric Strength Test

If a high voltage is applied between an input and the case (FG), it will pass through the LC of the built-in noise filter and energy will be stored. If the high voltages used for dielectric strength testing are turned ON and OFF with a switch, timer, or similar device, impulse voltage will be generated when the voltage is turned OFF and internal parts may possibly be damaged. To prevent the generation of impulse voltages, reduce the applied voltage slowly with a variable resistor on the test device or turn the voltage ON and OFF at the zero-cross point.

Inrush Current

When two or more Power Supplies are connected to the same input, the total current is the sum of the currents for each Supply. Select fuses and circuit breakers giving sufficient consideration to the fusing or operating characteristics so that fuses will not burn and breakers will not break due to inrush current.

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.

15-W, 30-W Models

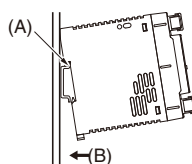
If the output voltage is set to a value less than -10%, the undervoltage alarm function may operate.

60-W, 90-W, 120-W, 180-W, 240-W, and 480-W Models

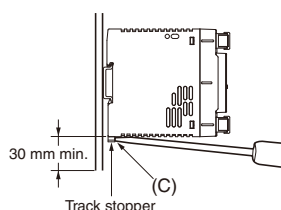
If the output voltage is set to a value less than 20 V (the factory setting), the undervoltage alarm function may operate.

DIN Rail Mounting

To mount the Block on a DIN Rail, hook portion (A) of the Block onto the rail and press the Block in direction (B).



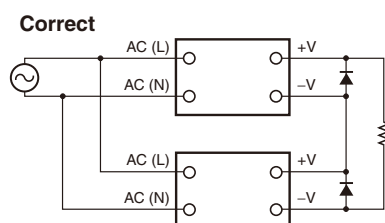
To dismount the Block, pull down portion (C) with a flat-blade screwdriver and pull out the Block.



Series Operation

(24-V Model)

Two power supplies can be connected in series.



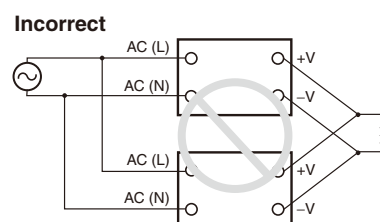
Note: 1. The diode is connected as shown in the figure. If the load is short-circuited, a reverse voltage will be generated inside the Power Supply. If this occurs the Power Supply may possibly deteriorate or be damaged. Always connect a diode as shown in the figure. Select a diode having the following ratings.

Type	Schottky Barrier diode
Dielectric strength (VRRM)	Twice the rated output voltage or above
Forward current (IF)	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.
3. Serial operation is not possible with 5-V and 12-V models.

Parallel Operation

The Product is not designed for parallel operation.



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 lightning surge occurs while turning ON the power supply.

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

- Checking overload protected status:
Check whether the load is in overload status or is short-circuited. Remove wires to load when checking.
- Checking overvoltage or internal protection (except for 15-W models):
Turn the power supply OFF once, and leave it OFF for at least 3 minutes. Then turn it ON again to see if this clears the condition.

Buzzing Noise When the Input Is Turned ON

(120-W, 180-W, 240-W, and 480-W Models)

A harmonic current suppression circuit is built into the Power Supply. This circuit can create noise when the input is turned ON, but it will last only until the internal circuits stabilize and does not indicate any problem in the Product.

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.

Read and Understand This Catalog

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

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Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of products in the customer's application or use of the product.

At the customer's request, OMRON will provide applicable third party certification documents identifying ratings and limitations of use that apply to the products. This information by itself is not sufficient for a complete determination of the suitability of the products in combination with the end product, machine, system, or other application or use.

The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this catalog.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the product may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased product.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

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