

Switch Mode Power Supply

S8VK-S (30/60/120/240/480-W Models)

A Perfect Fit for Small Control Panels

Coated PCBs for Better Resistance to Environment

Connections for Easy Wiring



- Operation possible at ambient temperatures from -40 to 70°C.
- Side-by-side mounting possible (up to 55°C). *1
- DC input supported (90 to 350 VDC).
- Power Boost function at 120% (30/60 and 120 W); Power Boost function at 150% (240 and 480 W).
- Low-voltage detection output (only for 240 and 480 W).
- ANSI/ISA 12.12.01.
- Certification for 3,000 m altitude (UL/EN/IEC 60950-1 and EN 50178).
- Complies with EN/IEC 61558-2-16.
- Lloyd's, DNV GL (Except 30 W)
- Five years Warranty *2

*1. For front, side-by-side mounting, see page 18.

*2. Refer to *Period and Terms of Warranty* on page 23 for details.



⚠ Refer to Safety Precautions for All Power Supplies and Safety Precautions on page 17.

Recommended Noise Filter



Noise filter
S8V-NF

Listed on page 25.

Model Number Structure

Model Number Legend

Note: Not all combinations are possible. Refer to *List of Models* in *Ordering Information*, below.

S8VK-S

1 2

1. Power Ratings

030: 30 W
060: 60 W
120: 120 W
240: 240 W
480: 480 W

2. Output voltage

24: 24 V

Ordering Information

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

Power ratings	Rated input voltage	Rated output voltage	Rated output current	Maximum boost current	Model number
30 W	100 to 240 VAC (allowable range: 85 to 264 VAC or 90 to 350 VDC)	24 V	1.3 A	1.56 A	S8VK-S03024
60 W		24 V	2.5 A	3 A	S8VK-S06024
120 W		24 V	5 A	6 A	S8VK-S12024
240 W		24 V	10 A	15 A	S8VK-S24024
480 W		24 V	20 A	30 A	S8VK-S48024

S8VK-S

Specifications

Ratings, Characteristics, and Functions

Item		Power rating Output voltage	30 W 24 V	60 W 24 V	120 W 24 V
Efficiency		115 VAC input *1	87% typ.	87% typ.	90% typ.
		230 VAC input *1	86% typ.	89% typ.	92% typ.
Input	Voltage range *2		Single-phase, 85 to 264 VAC, 90 to 350 VDC *12, 265 to 300 VAC (1 second)		
	Frequency *2		50/60 Hz (47 to 450 Hz)		
	Input current	115 VAC input *1	0.58A typ.	1.1 A typ.	1.2 A typ.
		230 VAC input *1	0.36A typ.	0.66 A typ.	0.63 A typ.
	Power factor		---		
	Leakage current *3	115 VAC input	0.5 mA max.		
		230 VAC input	1 mA max.		
Output	Inrush current *4 (for a cold start at 25°C)	115 VAC input	16 A typ.		
		230 VAC input	32 A typ.		
	Rated output current	1.3 A		2.5 A	5 A
	Rated output electric power	31.2 W		60 W	120 W
	Maximum boost current	1.56 A		3 A	6 A
	Voltage adjustment range *5	21.6 to 28 V (with V.ADJ)			
	Ripple & Noise voltage *6	100 to 240 VAC input *1	190 mVp-p max, at 20 MHz of bandwidth	190 mVp-p max, at 20 MHz of bandwidth	110 mVp-p max, at 20 MHz of bandwidth
	Input variation influence *7	0.5% max.			
	Load variation influence *8	1.5% max.			
	Temperature variation influence	115 to 230 VAC input	0.05%/°C max.		
	Start up time *4	115 VAC input *1	1000 ms max.	1000 ms max.	1000 ms max.
		230 VAC input *1	1000 ms max.	1000 ms max.	1000 ms max.
	Hold time *6	115 VAC input *1	30 ms typ.	20 ms typ.	45 ms typ.
230 VAC input *1		140 ms typ.	95 ms typ.	45 ms typ.	
Additional functions	Overload protection		Yes, automatic reset		
	Overvoltage protection *9		Yes, 130% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again)		
	Series operation		Yes (For up to two Power Supplies, external diodes are required.)		
	Parallel operation		Yes (For up to two Power Supplies), Refer to <i>Parallel Operation</i> on page 21 for details.		
	Output indicator		Yes (LED: Green)		
	Low-voltage detection output		No		
Insulation	Withstand voltage		3.0 kVAC for 1 min. (between all input terminals and output terminals), current cutoff 10 mA		
			2.0 kVAC for 1 min. (between all input terminals and PE terminals), current cutoff 10 mA		
	Insulation resistance		1.0 kVAC for 1 min. (between all output terminals and PE terminals), current cutoff 20 mA		
Environment	Ambient operating temperature *10		100 MΩ min. (between all output terminals and all input terminals/PE terminals) at 500 VDC		
	Storage temperature		-40 to 70°C (Derating is required according to the temperature, Refer to <i>Engineering Data</i>) (with no condensation or icing)		
	Ambient operating humidity		-40 to 85°C (with no condensation or icing)		
	Vibration resistance		95% RH max. (Storage humidity: 95% RH max.)		
	Shock resistance		10 to 55 Hz, maximum 5G, 0.42 mm half amplitude for 2 h each in X, Y, and Z directions		
Reliability	MTBF		150 m/s², 3 times each in ±X, ±Y, ±Z directions		
	Life expectancy *11		135,000 hrs min. (Refer to page 12 <i>Reference Value</i>)		
Construction	Weight		250 g max.	250 g max.	400 g max.
	Cooling fan		No		
	Degree of protection		IP20 by EN/IEC 60529		
Standards	Harmonic current emissions		Conforms to EN 61000-3-2		
	EMI	Conducted Emissions	Conforms to EN 61204-3 Class B, EN 55011 Class B		
		Radiated Emissions	Conforms to EN 61204-3 Class B, EN 55011 Class B		
	EMS		Conforms to EN 61204-3 high severity levels		
	Approved Standards		UL Listing: UL 508,ANSI/ISA 12.12.01 (For 30 W and 60 W only Class2 Output: Per UL 1310) cUL: CSA C22.2 No107.1, CSA C22.2 No213 (For 30 W and 60 W only Class2 Output: Per CSA C22.2 No.223)		
			UL UR: UL 60950-1 (Recognition) OVCII (≤ 3000 m) Pol2 cUR: CSA C22.2 No. 60950-1 OVCII (≤ 3000 m) Pol2		
			EN: EN 50178 OVCIII (≤ 2000 m) OVCII (2000 m≤ and≤3000) Pol2, EN 60950-1 OVCII (≤ 3000 m) Pol2		
	Conformed Standards		PELV (EN/IEC 60204-1) *12 EN/IEC 61558-2-16:2009+A1:2013 *12		
Marine Standards *12		Lloyd's register (Except 30 W) DNV GL (Except 30 W)			
SEMI		Conforms to F47-0706 (200 to 240 VAC input)			

Note: For notes *1 to *12, refer to page 4.