

Switch Mode Power Supply

S8VK-T (120/240/480/960 W Models)

Worldwide 3-phase Power Supply
Resistant in tough environments
Easy and fast installation
The most compact class on the market

- Wide input range for worldwide applications:
380 to 480 VAC (320 to 576 VAC)
- Possible for 2-phase input usage*:
380 to 480 VAC (340 to 576 VAC)
*When using the 960 W at 2-phase input, the power rating is 768 W.
- DC input can be available*:
450 to 600 VDC (450 to 810 VDC)
*Excluding 960 W
- High efficiency 91% typ. at 480 W model
- Wide operation temperature range: -40 to 70°C
- Power Boost function at 120%
- Meets LR maritime standards
- EMS: Conforms to EN 61204-3
EMI: EN61204-3 Class B
- RoHS Compliant



Refer to *Safety Precautions for All Power Supplies* and *Safety Precautions* on page 12.

Model Number Structure

Model Number Legend

S8VK-T

1 2

1. Power Ratings

120: 120 W
 240: 240 W
 480: 480 W
 960: 960 W

2. Output voltage

24: 24 V

Ordering Information

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

Power ratings	Input voltage	Output Voltage	Output current	Boost Current	Model number
120 W	2-phase and 3-phase 380 to 480 VAC 450 to 600 VDC	24 V	5 A	6 A	S8VK-T12024
240 W		24 V	10 A	12 A	S8VK-T24024
480 W		24 V	20 A	24 A	S8VK-T48024
960 W	3-phase 380 to 480 VAC	24 V	40 A	48 A	S8VK-T96024
	2-phase 380 to 480 VAC	24 V	32 A	-	

Specifications

Ratings, Characteristics, and Functions

		Power rating	120 W	240 W
Item		Output voltage	24 V	24 V
Efficiency		3-phase, 400 VAC input *11	89% typ.	89% typ.
Input	Voltage range *1		3-phase, 380 to 480 VAC (allowable range: 320 to 576 VAC) 2-phase, 380 to 480 VAC (allowable range: 340 to 576 VAC) 450 to 600 VDC (allowable range: 450 to 810 VDC) *8	
	Frequency *1		50/60 Hz (47 to 63 Hz)	
	Current	3-phase, 400 VAC input *11	0.38 A typ.	0.69 A typ.
	Power factor		-	-
	Leakage current	3-phase, 400 VAC input	3.5 mA max./1.3 mA typ.	3.5 mA max./1.4 mA typ.
	Inrush current (for a cold start at 25°C) *2	3-phase, 400 VAC input	28 A typ.	29 A typ.
Output	Rated output current		5 A	10 A
	Boost current		6 A	12 A
	Voltage adjustment range *3		22.5 to 29.5 VDC (with V.ADJ) (guaranteed)	
	Ripple & Noise voltage *4	3-phase, 400 VAC input *11	160 mV p-p max. at 20 MHz of bandwidth	190 mV p-p max. at 20 MHz of bandwidth
	Input variation influence *13		0.5% max.	
	Load variation influence *12		1.5% max.	
	Temperature variation influence	3-phase, 400 VAC input	0.05%/°C max.	
	Start up time *2	3-phase, 400 VAC input *11	700 ms typ.	600 ms typ.
	Hold time *2	3-phase, 400 VAC input *11	30 ms typ.	20 ms typ.
Additional functions	Overload protection		Yes, automatic reset	Yes, automatic reset
	Overvoltage protection		Yes, 130% or higher of rated output voltage, power shut off (shut off the input voltage and turn on the input again) *5	
	Series operation		Yes (For up to two Power Supplies, external diodes are required.)	
	Parallel operation		Yes (Refer to Engineering Data) (For up to two Power Supplies)	
	Output indicator		Yes (LED: Green), lighting from 80% to 90% or more of rated voltage	
Insulation	Withstand voltage		3.0 kVAC for 1 min. (between all input terminals and output terminals) cutoff current 20 mA 2.5 kVAC for 1 min. (between all input terminals and PE terminal) cutoff current 20 mA 1.0 kVAC for 1 min. (between all output terminals and PE terminal) cutoff current 30 mA	
	Insulation resistance		100 MΩ min. (between all output terminals and all input terminals / PE terminal) at 500 VDC	
Environment	Ambient operating temperature		-40 to 70°C (However, only startup is guaranteed for between -40°C to -25°C. (3-phase only)) (Derating is required according to the temperature.) (with no condensation or icing)	
	Storage temperature		-40 to 85°C (with no condensation or icing)	
	Ambient operating humidity		0% to 95% (Storage humidity: 0% to 95%)	
	Vibration resistance		10 to 55 Hz, 0.375-mm half 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	
Reliability	MTBF		135,000 hrs min.	
	Life expectancy *10		10 years min.	
Construction	Weight		700 g max.	1,000 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 Emission	Conforms to EN 61204-3 Class B EN 55011 Class B	
		Radiated Emission	Conforms to EN 61204-3 Class B EN 55011 Class B	
	EMS		Conforms to EN 61204-3 high severity levels	
	Approved Standards *6		UL Listed: UL 508 *7 EN: EN 50178 Lloyd's standards *9 ANSI/ISA 12.12.01 *7	UL Listed: UL 508 *7 UL UR: UL 60950-1 (Recognition) cUR: CSA C22.2 No.60950-1 CSA: CSA C22.2 No.60950-1 EN: EN 50178, EN 60950-1 Lloyd's standards *9 ANSI/ISA 12.12.01 *7
	Conformed Standards		SELV (EN 50178), PELV(EN 60204-1, EN 50178) Safety of Power Transformers (EN 61558-2-16) EN 50274 for Terminal parts	SELV (EN 60950-1/EN 50178/UL 60950-1) PELV (EN 60204-1, EN 50178) Safety of Power Transformers (EN 61558-2-16) EN 50274 for Terminal parts
	SEMI		Conforms to F47-0706 (3-phase, 380 to 480 VAC input)	

Note: Refer to page 4 for notes 1 to 13.