

# S8VK POWER SUPPLIES

Reliable and easy operation - worldwide



» Compact size for design flexibility

» Failure resistant in tough environments

» Easy and fast installation

# Compact power supplies... that make a world of difference!

*Omron has developed a new family of power supplies featuring the same high quality and practical design that made our previous series safe, reliable, and easy to install. The new S8VK series is even tougher, more compact and easier to use.*

*Omron is a world leader in the development and manufacturing of industrial switching power supplies. More than 25 years ago we launched our first compact line, the S82K, and since 2002, our S8VS compact series has been an automatic choice with customers.*

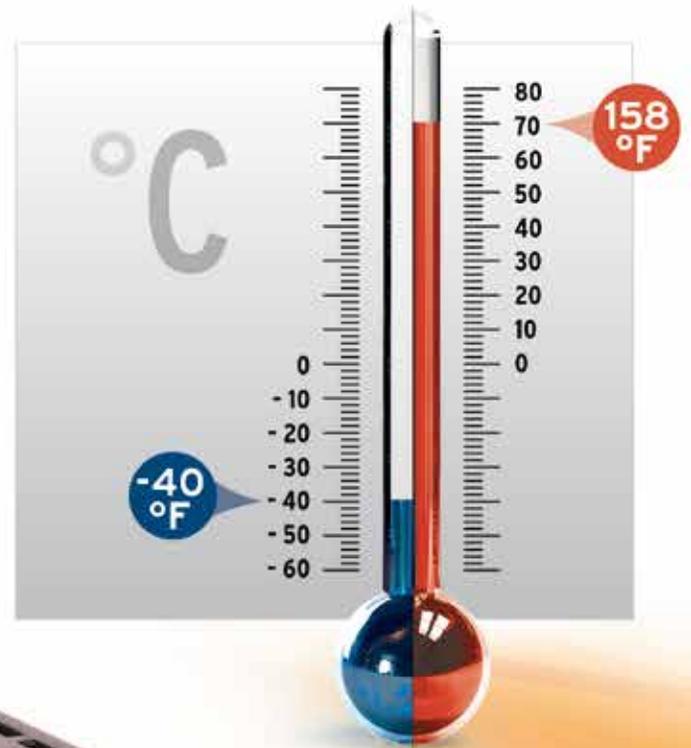
*Today, Omron expands on this legacy with the introduction of the S8VK series. To provide the perfect solution to match every customer's need, Omron has launched 3 different families within the S8VK series:*

- *The cost effective S8VK-C models*
- *The standard S8VK-G models*
- *The redundancy units S8VK-R models*



# Failure resistant in tough environments

Wherever the S8VK is installed within the range of the S8VK derating curve, it will give the same reliable performance for the duration of its service life. The wide operating temperature range of between -40 to 70°C (-40 to 158°F) guarantees stable operation in any environment where other power supplies may start to fail. The robust design advantages don't end there because the S8VK also offers high resistance to the vibration transmitted by machinery in close proximity.



The image is for illustration purposes only.

# Easy and fast installation

## Making your life easier

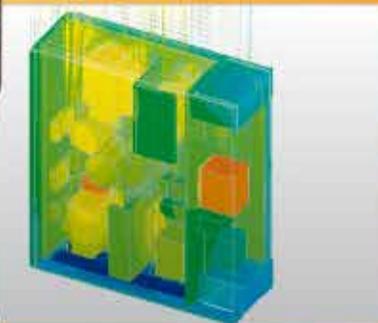
Simply click onto a standard DIN rail using one hand to mount in a flash. Effortless and time saving! In addition, the S8VK features a double set of DC output terminals (three for the negative terminal), which means you also spend less time and effort on wiring.



# Long-life guaranteed

Designed to international safety standards for global markets, the S8VK even has approvals for marine applications and carries an across-the-board, 5 year warranty on all models no matter which country your machine is exported to! Because of high MTBF figures, your S8VK will keep running in stable condition for a long time.

# Compact size for design flexibility



Thermal view

Component view



## Designed with downsizing in mind

Omron knows that size is important for machine designers, which is why we have applied our developed technology using thermal simulation for the design of the S8VK. This gives a high power density in a compact package.

# The S8VK series line up

## The perfect match for your needs

To ensure that we have the perfect solution to match every need, Omron offers three different families within the S8VK series:

**S8VK-C** . . . The cost effective line with uncompromising quality.

**S8VK-G** . . . Our “install & forget” option, offering longer lifetime, higher protection and more features.

**S8VK-R** . . . Redundancy unit minimizes the risk of machine failure when an "always-on" backup power supply is required.

Featuring	S8VK-C	S8VK-G	S8VK-R
CE & Safety standard	CE, EN60950-1 EN50178, cULus, cURus		<ul style="list-style-type: none"> <li>• For high reliability redundancy systems</li> <li>• Used in conjunction with 2 power supplies</li> </ul> Includes: <ol style="list-style-type: none"> <li>1. Diode system for up to 10 amps or 20 amps</li> <li>2. Redundancy OK LED for visual indication that both power supplies are operational</li> <li>3. Easy setup with output voltage balanced LED</li> <li>4. Alarm output terminals indicate status of systems power supplies</li> </ol>
INPUT	100-240VAC, 90-350VDC		
Operation Temperature	-25 to 60 °C (-13 to 140°F)	-40 to 70 °C (-40 to 158 °F)	
EMI	EN55011 Class A	EN55011 Class B	
EN 61000-3-2	Yes(240/480w)	Yes	
Parallel Operation	No	Yes	
Standards	cULus	cULus, Class 2 (15/30/60 Watt), Safety transformer, EN561558-2-16, EN60204-1 PELV, Lloyd's standards	
Additional features	NA	Power Boost 120%	
Overload Protection	Yes	Yes	
Overvoltage Protection	Yes	Yes	



## Ordering information

### S8VK-G series

Type	Power ratings	Input voltage	Output voltage	Output current	Size (W × H × D) [mm]	Order code
Power supply Single phase	15 W	100 to 240 VAC, 90 to 350 VDC	5 V	3 A	22.5 × 90 × 90	S8VK-G01505
			12 V	1.2 A		S8VK-G01512
			24 V	0.65 A		S8VK-G01524
	30 W		5 V	5 A	32 × 90 × 90	S8VK-G03005
			12 V	2.5 A		S8VK-G03012
			24 V	1.3 A		S8VK-G03024
	60 W		12 V	4.5 A	32 × 90 × 110	S8VK-G06012
			24 V	2.5 A		S8VK-G06024
	120 W		24 V	5 A	40 × 125 × 112.2	S8VK-G12024
			24 V	10 A		60 × 125 × 140
	240 W		48 V	5 A	60 × 125 × 140	
			24 V	20 A		95 × 125 × 140
	480 W		48 V	10 A	95 × 125 × 140	

### S8VK-C series

Type	Power ratings	Input voltage	Output voltage	Output current	Size (W × H × D) [mm]	Order code	
Power supply Single phase	60 W	100 to 240 VAC	24 V	2.5 A	32 × 90 × 110	S8VK-C06024	
	120 W		24 V	5 A	40 × 125 × 112.2	S8VK-C12024	
	240 W		Allowable range: 85 to 264 VAC, 90 to 350 VDC	24 V	10 A	60 × 125 × 140	S8VK-C24024
	480 W			24 V	20 A	95 × 125 × 140	S8VK-C48024

### S8VK-R series

Type	Input voltage	Output current	Size (W × H × D) [mm]	Order code
Redundancy Module	5 to 24 VDC	10 A	32 × 90 × 110	S8VK-R10
	12 to 48 VDC	20 A	40 × 125 × 112.2	S8VK-R20

## Specifications

### S8VK-G series (15 W - 30 W models)

Type	S8VK-G								
	Power ratings		15 W			30 W			
Item	Output voltage		5 V	12 V	24 V	5 V	12 V	24 V	
Efficiency (Typical)	230 VAC input		77%	77%	80%	79%	82%	86%	
Input	Voltage *1		100 to 240 VAC, 90 to 350 VDC (allowable range: 85 to 264 VAC) *6						
	Frequency *1		50/60 Hz (47 to 450 Hz)						
	Current (Typical)	115 VAC input	0.32 A	0.3 A	0.31 A	0.5 A	0.57 A	0.58 A	
		230 VAC input	0.2 A	0.21 A	0.2 A	0.32 A	0.37 A	0.36 A	
	Power factor (Typical)		0.42			0.43		0.42	
	Harmonic current emissions		Conforms to EN61000-3-2						
	Leakage current (Typical)	115 VAC input	0.14 mA			0.13 mA			
230 VAC input		0.25 mA			0.24 mA				
Inrush current (Typical) *2	115 VAC input	16 A							
	230 VAC input	32 A							
Output	Voltage adjustment range *3		-10% to 15% (with V.ADJ) (guaranteed)						
	Ripple *4	at 20 MHz (Typical)	60 mV	50 mV	30 mV	30 mV	30 mV	30 mV	
	Input variation influence		0.5% max. (at 85 to 264 VAC input, 100% load)						
	Load variation Influence (Rated Input voltage)		3.0% max. (5 V), 2.0% max. (12 V), 1.5% max. (24 V), at 0 to 100% load						
	Temperature variation influence		0.05%/°C max.						
	Start up time (Typical) *2	115 VAC input	530 ms	520 ms	580 ms	550 ms	550 ms	600 ms	
		230 VAC input	330 ms	400 ms	400 ms	430 ms	490 ms	480 ms	
Hold time (Typical) *2	115 VAC input	28 ms	29 ms	32 ms	33 ms	36 ms	23 ms		
	230 VAC input	134 ms	138 ms	134 ms	177 ms	170 ms	154 ms		
Additional functions	Overload protection *2		121 to 160% of rated current (130% typ value)						
	Overvoltage protection *2		Yes *5						
	Power Boost		120% of rated current (Refer to Engineering Data)						
	Parallel operation		Yes (Refer to Engineering Data)						
Series operation		Possible for up to two Power Supplies (with external diode)							

\*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. For a cold start at 25°C. Refer to S8VK-G Datasheet (Cat. No. T056).

\*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. A characteristic when the ambient operating temperature is between -25 to 70°C.

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

\*6. 90 to 350 VDC's UL standards are scheduled to obtain certification in June, 2013.

## S8VK-G series (60 W - 480 W models)

Type		S8VK-G						
Item	Power ratings	60 W		120 W	240 W		480 W	
	Output voltage	12 V	24 V	24 V	24 V	48 V	24 V 48 V	
Efficiency (Typical)		230 VAC input		85%	88%	89%	92% 93%	
Input	Voltage *1		100 to 240 VAC, 90 to 350 VDC (allowable range: 85 to 264 VAC) *6					
	Frequency *1		50/60 Hz (47 to 450 Hz)			50/60 Hz (47 to 63 Hz)		
	Current (Typical)	115 VAC input	1.0 A	1.1 A	1.3 A	2.4 A		4.7 A
		230 VAC input	0.6 A	0.7 A	0.7 A	1.3 A		2.3 A
	Power factor (Typical)		0.46	0.45	0.94	0.9		
	Harmonic current emissions		Conforms to EN61000-3-2					
	Leakage current (Typical)	115 VAC input	0.16 mA		0.24 mA	0.23 mA		0.30 mA
		230 VAC input	0.30 mA		0.38 mA	0.33 mA		0.49 mA
Inrush current (Typical) *2	115 VAC input	16 A		16 A	16 A			
	230 VAC input	32 A		32 A	32 A			
Output	Voltage adjustment range *3		-10% to 15% (with V.ADJ) (guaranteed)					
	Ripple *4	at 20 MHz (Typical)		150 mV	50 mV	150 mV	180 mV	350 mV 230 mV 470 mV
	Input variation influence		0.5% max. (at 85 to 264 VAC input, 100% load)					
	Load variation Influence (Rated Input voltage)		2.0% max. (12 V), 1.5% max. (24 V), at 0 to 100% load			1.5% max. (24 V, 48 V), at 0 to 100% load		
	Temperature variation influence		0.05%/°C max.					
	Start up time (Typical) *2	115 VAC input	570 ms	650 ms	790 ms	250 ms	290 ms	380 ms
		230 VAC input	430 ms	500 ms	750 ms	250 ms	290 ms	260 ms
	Hold time (Typical) *2	115 VAC input	26 ms	25 ms	42 ms	44 ms	43 ms	40 ms
230 VAC input		139 ms	129 ms	42 ms	44 ms	44 ms	50 ms	
Additional functions	Overload protection *2		121 to 160% of rated current, (130% typ value)		121 to 160% of rated load current, (125% typ value)		121 to 160% of rated load current, (130% typ value)	
	Overvoltage protection *2		Yes *5					
	Power Boost		120% of rated current (Refer to Engineering Data)					
	Parallel operation		Yes (Refer to Engineering Data)					
	Series operation		Possible for up to two Power Supplies (with external diode)					

\*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. For a cold start at 25°C. Refer to S8VK-G Datasheet (Cat. No. T056).

\*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. A characteristic when the ambient operating temperature is between -25 to 70°C.

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

\*6. 90 to 350 VDC's UL standards are scheduled to obtain certification in June, 2013.

## S8VK-C series

Type		S8VK-C	
Efficiency (Ave)		87%	
Input	Rated Input Voltage		100 to 240 VAC
	Allowable range		85 to 264 VAC, 90 to 350 VDC
	Inrush current	at 230 VAC	40 A max
Output	Voltage adjustment range		-10% to 15% (with V.ADJ)
Additional functions	Overload protection		Yes
	Overvoltage protection		Yes
Others	Operating ambient temperature		-25 to 60°C
	Storage temperature		-25 to 65°C
	Output indicator		Yes
	EMI		Conforms to EN61204-3, EN55011 Class A
	EMS		Conforms to EN61204-3 high severity levels
	Approved Standards		UL: UL508 (Listing), UL60950-1, cUL: CSA C22.2 No.107.1 and No.60950-1, EN/VDE: EN50178 (=VDE0160), EN60950-1 (=VDE0805)
	Degree of protection		IP20 by EN/IEC60529

## S8VK-R series (Redundancy Units)

Type	S8VK-R10	S8VK-R20
Rated Input Voltage	5 to 24 VDC	12 to 48 VDC
Output Current	10 A	20 A
Voltage Drop	0.6 V max at 10 A	0.9 V max at 20 A
Operation Temperature range	-40 to 70°C	-40 to 70°C
Safety Standard	UL60950-1, UL508, cURus, cULus, EN50178, EN60950-1	
Signal output (Only one)	30 VDC 50 mA max by Photo MOS Relay	
Redundancy OK Display	Yes	
Balance support Display	Yes	
Grounding terminal	- Yes, One for Chassis grounding	

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