OMRON

S8VK POWER SUPPLIES

Reliable and easy operation – worldwide

» The most compact design on the market

» Resistant in tough environments

» Easy and fast installation

361°

Compact power supplies...

Omron has developed a new and exciting family of compact power supplies. With 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 manufacture of industrial power supplies. We launched our first compact product, the S82K, in 1987 and our S8VS compact series has been an automatic choice with customers since 2002.

To ensure that we provide the perfect solution to match every customer's need, Omron has launched 3 different families: the cost effective S8VK-C, the standard S8VK-G, and the top of the range S8VK-R (redundancy unit).

...that make a world of difference!

Three compelling reasons why the S8VK is the right power supply for you:

Resistant in tough environments

Omron is confident that the quality of the S8VK will exceed your highest expectations. Its robust design and construction withstand the harshest environments and provide stable operation over a wide operating temperature range. Because of high MTBF figures, your S8VK power supply will keep running when others fail.

Easy and fast installation

The S8VK series not only offers you greater flexibility when designing your machine, it also saves you time and reduces costs thanks to the minimal wiring requirements and easy one-handed mounting provided by the enhanced DIN-rail mounting clip.

The most compact design on the market

Designed with space saving in mind, the S8VK series is our most compact power-supply range ever and the most compact available on today's market.

Resistant to tough environments

Wherever the S8VK is installed, 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 guarantees stable operation in any environment where other power supplies may be found lacking. But its robust design advantages don't end there because the S8VK also offers high resistance to the vibration transmitted by machinery in close proximity, this is due to the vibration-resistant DIN-rail mounting clip.

Easy and fast installation

Making your life easier

Look no further than the aspect of installation for an example of the attention to detail that we have gone to in developing a product that will help to make 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.

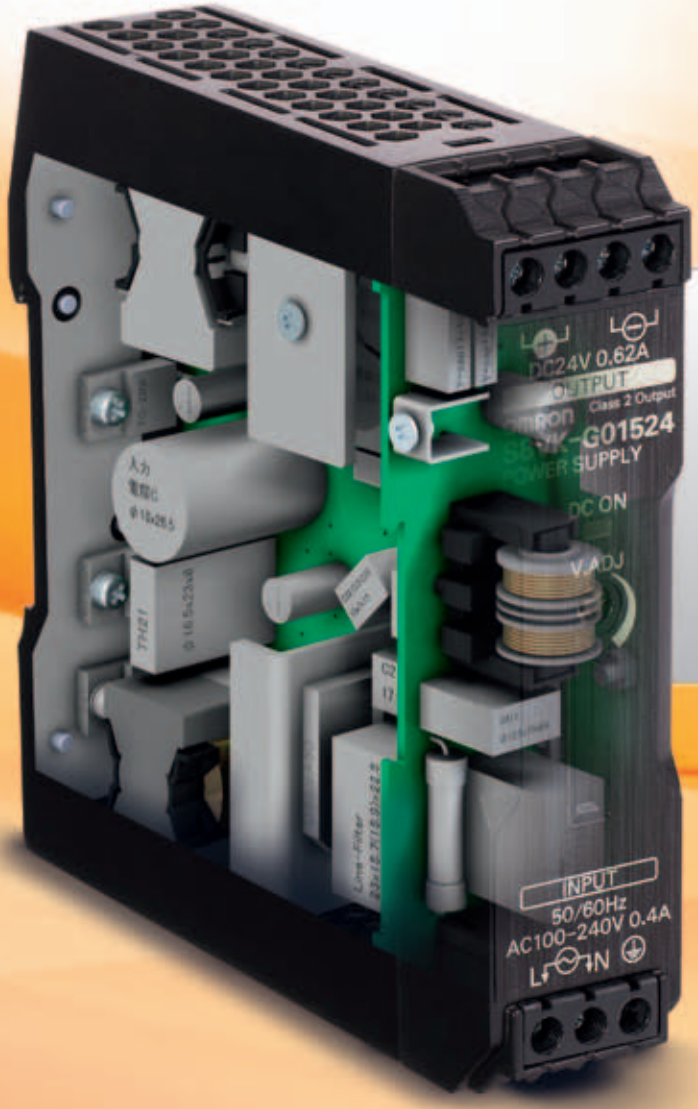
Long-life guaranteed

Designed to international safety standards for global markets, the S8VK even has approvals for marine applications and carries a full, across-the-board, warranty on all models no matter which country your machine is exported to! Because of high MTBF figures, the S8VK power supply will keep running when others fail.

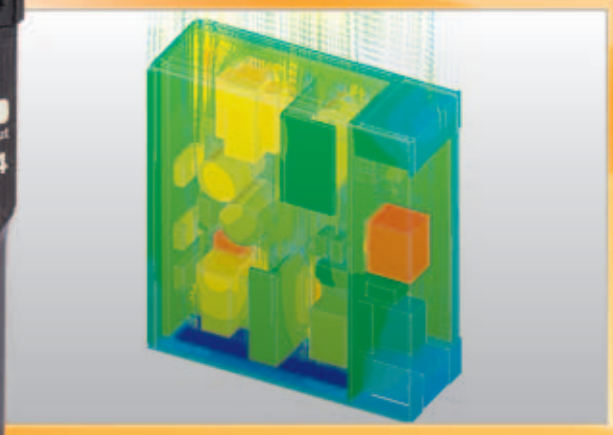
The most compact design on the market

Designed with downsizing in mind

Omron knows that size is important for machine designers, which is why we have applied our exclusive thermal simulation software during the design of the S8VK. This gives a high power density in a compact package that is 13% smaller than comparable power supplies and the smallest on the market for its type. And the S8VK has an even sleeker exterior than any previous models.



Component view



Thermal view

The 361° Approach

The perfect match for your needs

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

- The cost effective S8VK-C Lite line with uncompromising quality.
- The standard S8VK-G Pro Line, our “install & forget” option, offering longer lifetime, higher protection and more features.
- The top of the range S8VK-R Pro plus (redundancy unit) designed for specific applications and special demands.

Our new 361° Approach not only provides a complete all-round offering, it also puts you at the very centre of the product selection process. It’s an approach that leads to a Perfect Match – one with the extra degree of confidence that comes from choosing Omron.

Featuring	LITE S8VK-C	PRO S8VK-G	PROplus
CE & Safety standard	CE. EN60950-1,cURus	CE, EN60950-1 EN50178, cULus,cURus	For high reliability redundancy system Features 1. Redundancy OK LED 2. Current balance supporter LED 3. Signal output for the status confirmation.
INPUT	100-240 VAC	100-240VAC, 90-350VDC	
Operation Temperature	-20 to 60 ºC	-40 to 70 ºC	
EMI	EN55011 Class A	EN55011 Class B	
EN 61000-3-2	No	Yes	
Parallel Operation	No	Yes	
Following Standards	No	Safety transformer, EN561558-2-16, EN60204-1 PELV	
Additional features	No	Power Boost 120%	

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 Allowable range: 85 to 264 VAC, 90 to 350 VDC, 2 phases less than 240 VAC	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 × 113	S8VK-G12024
	240 W		24 V	10 A	60 × 125 × 140	S8VK-G24024
			48 V	5 A		S8VK-G24048
	480 W		24 V	20 A	95 × 125 × 140	S8VK-G48024
			48 V	10 A		S8VK-G48048

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	Single phase 100 to 240 VAC (Allowable range: 85 to 264 VAC)	24 V	2.5 A	32 × 90 × 110	S8VK-C06024
	120 W		24 V	5 A	40 × 125 × 113	S8VK-C12024
	240 W		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 30 VDC	10 A	32 × 90 × 110	S8VK-R10
	12 to 60 VDC	20 A	40 × 125 × 113	S8VK-R20

Specifications

S8VK series

Type			S8VK-G
Efficiency (Ave)			90%
Input	Rated Input Voltage		100 to 240 VAC
	Allowable range		85 to 264 VAC, 90 to 350 VDC 2 phases less than 240 VAC
	Harmonic current emissions		Conforms to EN61000-3-2
	Leakage current	at 200 VAC	1 mA max
	Inrush current	at 230 VAC	40 A max
Output	Voltage adjustment range		–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		3.0% max. (5 V), 2.0% max. (12 V), 1.5% max. (24, 48 V), at 0% to 100% load
	Temperature variation influence		0.05%/°C max.
	Start up time		1,000 ms max
	Hold time		20 ms min
Additional functions	Overload protection		Yes, 130% of rated current type
	Power Boost		120% of rated current * Refer to “Power Boost function”
	Overvoltage protection		Yes
	Parallel operation		Possible for up to 2 units
	Series operation		Possible for up to 2 units

Type		S8VK-G
Others	Operating ambient temperature	–40 to 70°C (–40 to 158°F) * Refer to “Derating Curve”
	Storage temperature	–40 to 85°C (–40 to 185°F)
	Operating ambient humidity	25% to 95% (Storage humidity: 25% to 95%)
	Dielectric strength (detection current: 20 mA)	3.0 kVAC for 1 min. (between all inputs and outputs) 2.0 kVAC for 1 min. (between all inputs and PE terminal) 1.0 kVAC for 1 min. (between all outputs and PE terminal)
	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
		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 indicatior	Yes (color: green), lighting from 80% to 90% of rated voltage
	EMI	Conforms to EN61204-3, EN55011 Class B
	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) Marin approval (Lloyd’s Register) UL1310 Class 2 output for 15W, 30W, 60W
	Fulfilled Standards	SELV (EN60950/EN50178/UL60950-1), PELV (EN60240-1,EN50178), Safety ot Power Transformers (EN61558-2-16) EN50274 for Terminal parts
	Degree of protection	IP20 by EN/IEC60529
	SEMI	F47-0706 (200 to 240 VAC)

S8VK-C series

Type			S8VK-C
Efficiency (Ave)			87%
Input	Rated Input Voltage		100 to 240 VAC
	Allowable range		85 to 264 VAC
	Inrush current	at 230 VAC	40 A max
Output	Voltage adjustment range		–10% to 10% (with V.ADJ)
Additional functions	Overload protection		Yes
	Overvoltage protection		Yes
Others	Operating ambient temperature		–20 to 60°C (–4 to 140°F)
	Storage temperature		–25 to 65°C (–13 to 149°F)
	Output indicatior		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)

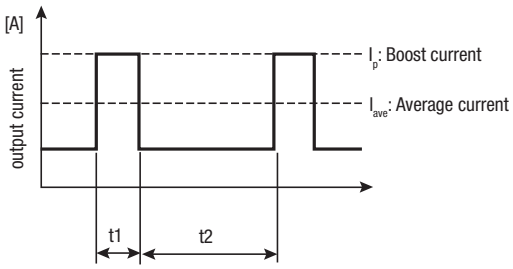
Type	S8VK-R10	S8VK-R20
Rated Input Voltage	5 to 30 V	12 to 60 V
Output Current	10 A	20 A
Voltage Drop	1 V max at 10 A	1 V max at 20 A
Operation Teperature range	–40 to 70°C	–40 to 70°C
Safety Standard	UL60950-1, UL508, cURus, cULus, EN50178, EN60950-1	
Signal output (Only one)	30 VDC 50 mA max by Photo MOS Relay	
Redundancy OK Display	LED, The function to know the both of PS operate normally.	
Balance check Display	LED, The function to help to get the balance of 2 unit PS output voltage	
Grounding terminal	–	Yes, One for Chassis grounding

Specifications

S8VK-G Series

Power Boost Function

- Do not allow the boost current to continue for more than 10 seconds. Also, do not let the duty cycle exceed the following conditions. These conditions may damage Power supply.
- Ensure that the average current of one cycle of the boost current does not exceed the rated output current. This may damage Power Supply.
- Lessen the load of the boost load current by adjusting the ambient temperature and the mounting orientation.

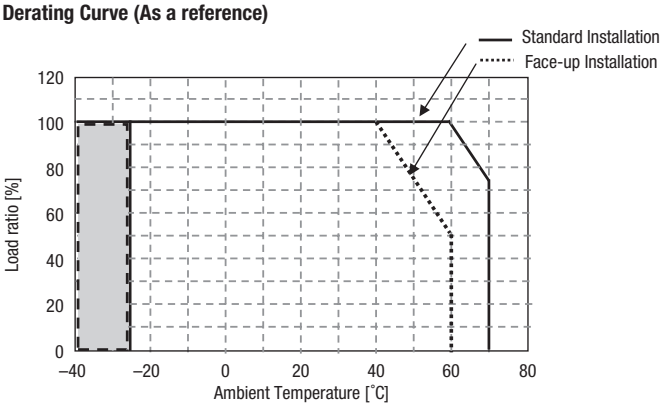


Defined condition for Power Boost availability.

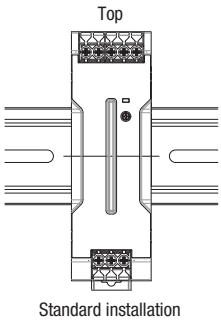
- t1 ≤ 10 s
- I_p ≤ Rated boost current
- I_{ave} ≤ Rated current

$$\text{Duty} = \frac{t1}{t1 + t2} \times 100\ [\%] \leq 30\%$$

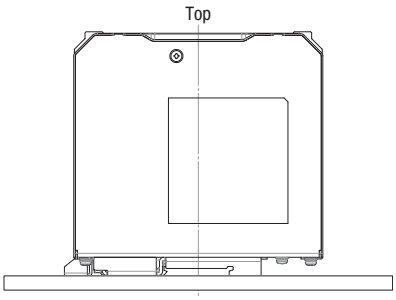
Derating Curve (As a reference)



For Standard installation.
– 25 to 60°C (-13 to 140°F) at 100% load
Derating – 2.5% of load/K from 60 to 70°C (from 140 to 158°F)
The range that some parts of specifications are changed from Datasheet.



Standard installation



Face-up installation

Terminals and Wiring

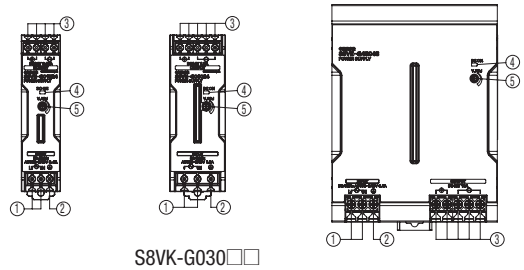
S8VK-G(15/30/60/120/240/480W)

	INPUT		OUTPUT		PE	
Model	**American Wire Gauge**	**Solid Wire /Stranded Wire**	**American Wire Gauge**	**Solid Wire /Stranded Wire**	**American Wire Gauge**	**Solid Wire /Stranded Wire**
S8VK-G01505	AWG24 to 12	0.25 to 4 mm^2 /0.25 to 2.5 mm^2	AWG20 to 12	0.5 to 4 mm^2 /0.5 to 2.5 mm^2	AWG14 to 12	2.5 mm^2 to 4 mm^2 /2.5 mm^2 4 mm^2
S8VK-G01512			AWG22 to 12	0.35 to 4 mm^2 /0.35 to 2.5 mm^2		
S8VK-G01524			AWG24 to 12	0.25 to 4 mm^2 /0.25 to 2.5 mm^2		
S8VK-G03005	AWG24 to 12	0.25 to 4 mm^2 /0.25 to 2.5 mm^2	AWG18 to 12	0.75 to 4 mm^2 /0.75 to 2.5 mm^2		
S8VK-G03012			AWG20 to 12	0.5 to 4 mm^2 /0.5 to 2.5 mm^2		
S8VK-G03024			AWG22 to 12	0.35 to 4 mm^2 /0.35 to 2.5 mm^2		
S8VK-G06012	AWG22 to 12	0.35 to 4 mm^2 /0.35 to 2.5 mm^2	AWG18 to 12	0.75 to 4 mm^2 /0.75 to 2.5 mm^2		
S8VK-G06024			AWG20 to 12	0.5 to 4 mm^2 /0.5 to 2.5 mm^2		
S8VK-G12024	AWG22 to 10	0.35 to 6 mm^2 /0.35 to 4 mm^2	AWG18 to 10	0.75 to 6 mm^2 /0.75 to 4 mm^2	AWG14 to 10	2.5 mm^2 to 6 mm^2 /2.5 mm^2 4 mm^2
S8VK-G24024	AWG20 to 10	0.5 to 6 mm^2 /0.5 to 4 mm^2	AWG14 to 10	2.5 to 6 mm^2 /2.5 to 4 mm^2		
S8VK-G24048			AWG18 to 10	0.75 to 6 mm^2 /0.75 to 4 mm^2		
S8VK-G48024	AWG16 to 10	1.5 to 6 mm^2 /1.5 to 4 mm^2	AWG12 to 10	4 to 6 mm^2 /4 mm^2		
S8VK-G48048			AWG14 to 10	2.5 to 6 mm^2 /2.5 to 4 mm^2		

* Wires to be stripped: 8 mm

S8VK-G Nomenclature

S8VK-G015□□ S8VK-G060□□ S8VK-G480□□

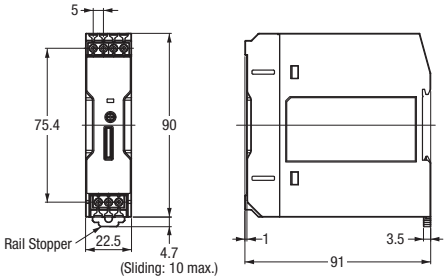


S8VK-G030□□
S8VK-G12024
S8VK-G240□□

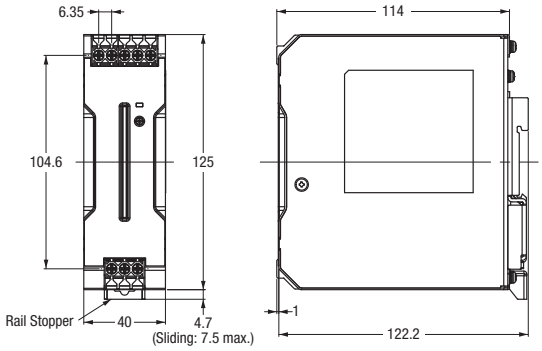
No.	Name	Function
1	**AC Input terminals, (L) & (N)** The fuse is located on the L side.	
2	**PE (Protective earthing) Terminal.** PE terminal stipulated in the safety standards is used. Connect fully to ground.	
3	**DC output terminal (+V) + (–V)**	
4	**Output Indicatior (DC ON: Green)**	
5	**Output Voltage Adjuster (V.ADJ)**	

S8VK-G Dimensions

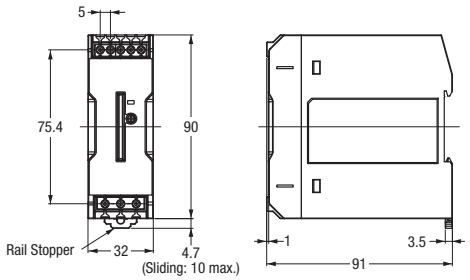
S8VK-G015□□



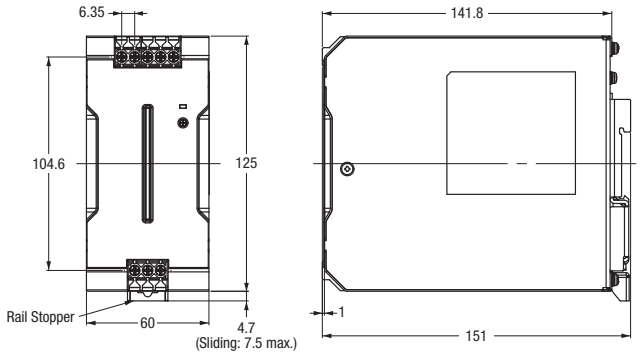
S8VK-G12024



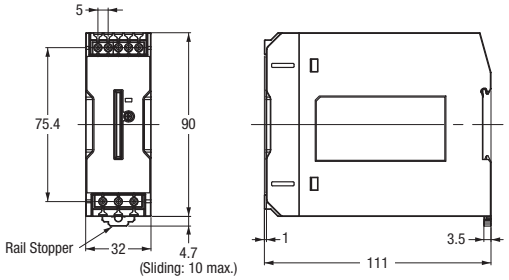
S8VK-G030□□



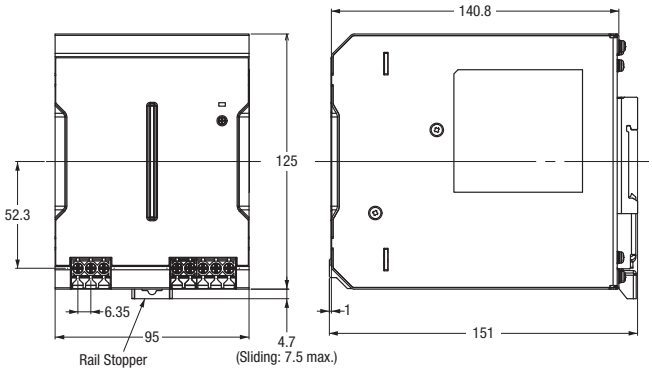
S8VK-G240□□



S8VK-G060□□



S8VK-G480□□



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CD_UK-01+S8VK+Brochure