

# Switch Mode Power Supplies

S8VK-S

For More Compact Control Panels



- A compact body and side-by-side mounting for more design flexibility
- Greater environment resistance for application in more various locations
- Push-In Plus terminal blocks for easy wiring

# New Value For Control Panels

Control Panels: The Heart of Manufacturing Sites.

Evolution in control panels results in large evolution in production facilities.

And if control panel design, control panel manufacturing processes, and human interaction with them are innovated, control panel manufacturing becomes simpler and takes a leap forward.

OMRON will continue to achieve a control panel evolution and process innovation through many undertakings starting with the shared Value Design for Panel <sup>\*1</sup> concept for the specifications of products used in control panels.

## \*1 Value Design for Panel



Our shared Value Design for Panel (herein after referred to as "Value Design") concept for the specifications of products used in control panels will create new value to our customer's control panels.

Combining multiple products that share the Value Design concept will further increase the value provided to control panels.



Innovation for  
panel building  
Process

Further Evolution  
for  
Panels

New Value  
For  
Control Panels

Process

Conceptual design Detailed design Assembly/Wiring Shipment

Conceptual design Detailed design Assembly/Wiring Shipment

Panels

Simple & Easy  
for panel business  
People

People



# For More Compact Control Panels

## World's Smallest Class of Power Supplies\*: New Global S8VK-S Power Supplies For More Compact Control Panels

New S8VK-S Power Supplies Even More Advanced Than the Global S8VK Series for More Flexible Application.  
More space savings, more work savings, and more resistance to environments, all to provide new value.



S8VK-Series



# World's Smallest Class of Compact Body\*<sup>1</sup> and Side-by-side Mounting for More Design Flexibility

Downsizing achieved with high-efficiency, low-loss technology. OMRON's unique thermal control technology enables side-by-side mounting. Less installation area helps you downsize control panels.

**Compact Bodies**

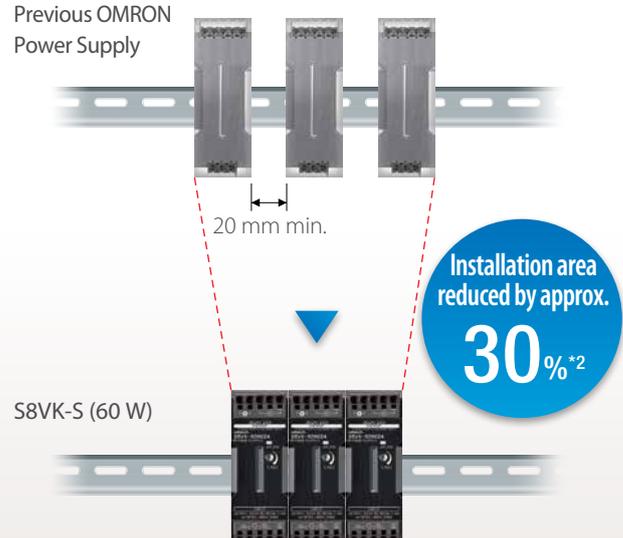
36%

less volume\*<sup>2</sup>



S8VK-S (120 W)

**Side-by-side Mounting to Reduce Installation Area**

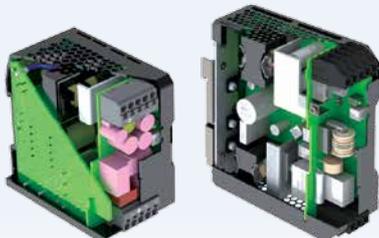


**Can be used at the ambient operating temperature of 70°C\*<sup>3</sup>**

\*1. According to OMRON investigation in November 2015.  
 \*2. Comparison to previous OMRON Power Supply.  
 \*3. Refer to the derating curve in the S8VK-S Datasheet.

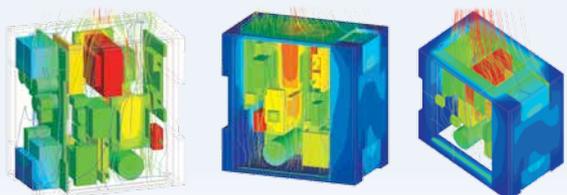
## Technology for Greater Efficiency and Less Loss

Technology developed for the S8VK-G has been advanced even further to reduce switching loss and to reduce the loss from heat-generating components, such as transformers and diodes. This has enabled downsizing and high-density mounting of mounted components.



## Sophisticated Thermal Control Technology

OMRON's unique thermal modeling knowhow was used to establish fast and accurate thermal simulation methods. The result is optimum component layout with controlling heat flow. By optimizing the shape and size of the heat sink, both downsizing and side-by-side mounting of the Power Supplies was achieved.



# Greater Environment Resistance for Application in More Various Locations

## Stable Operation in a Wide Range of Environments

### Altitudes up to 3,000 m

Reinforced insulation and application in environments with low atmospheric pressure.



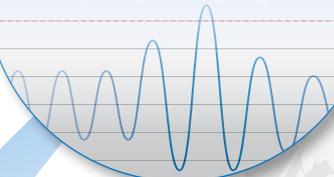
### Vibration resistance to 5G

Robust design to handle severe vibration conditions.



### Abnormal input voltages up to 300 VAC\*

Stable operation even on sites with poor power quality. \* for 1s



### Humidity resistance of 95%

Applicable in humid environments.



### Wide ambient operating temperature range of -40 to 70°C.

Applicable in tough environments from extreme cold to extreme hot.



### Resists dust and corrosive gases

Coated PCBs for stable operation in tough environments.



Coated PCBs are standard features.

### Wide range of certified standards

Design standards for reliable application in many countries around the world.



Comply with UL 508A, Standard for Industrial Control Panels for North America

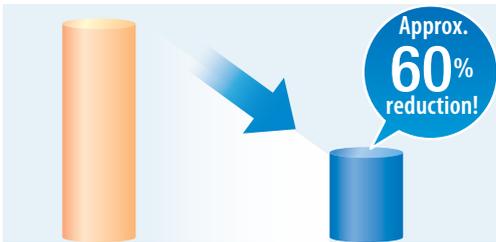
Note: These images are for illustration purposes only.

# Push-In Plus Terminal Blocks for Easy Wiring



**Just Insert Wires: No Tools Required**  
 Now you can use Push-In Plus terminal blocks to reduce the time and work involved in wiring.

Greatly Reduce Wiring Work with Push-In Plus Terminal Blocks



Conventional screw terminal blocks OMRON Push-In Plus terminal block

\*Information for Push-In Plus and screw terminal blocks is based on OMRON's actual measurement value data.

## Screwdriver Held in Place to Free Both Your Hands

Optimized shape to hold the screwdriver was created by the resin parts and the spring. Work goes smoothly when connecting stranded wires directly to the terminal because it's easier to aim at the desired terminal.

## Easy to Insert

OMRON's Push-In Plus terminal blocks are as easy as inserting to an earphone jack. They help reduce the work load and improve wiring quality.

## Held Firmly in Place

Even though less insertion force is required, the wires are held firmly in place. The advanced mechanism design technology and manufacturing technology produced a spring that ensures better workability and reliability.

IEC standard (cable diameter)	Push-In Plus terminal block	Screw terminal block
20 N min. (AWG20,0.5 mm <sup>2</sup> )	125 N	112 N

\*Information for Push-In Plus and screw terminal blocks is based on OMRON's actual measurement value data.

## Ideas to Save Space in Control Panels

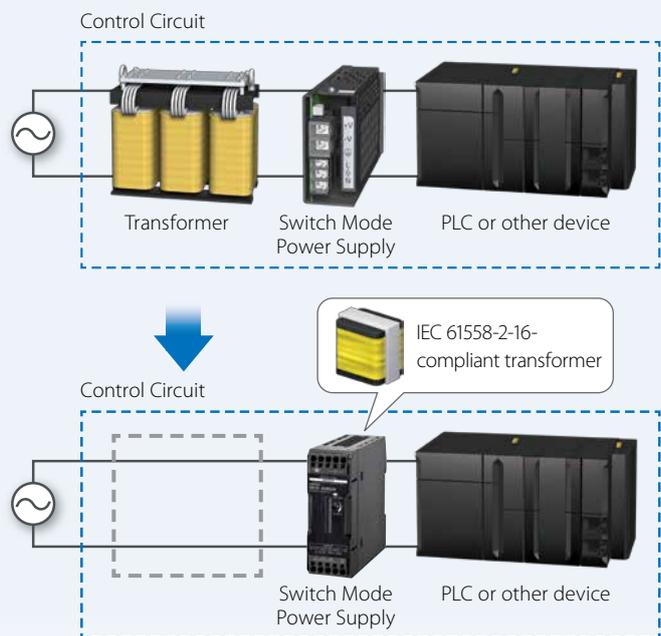
### Eliminating Transformers for Control Circuits

(For applications with Switch Mode Power Supplies that use a IEC 61558-2-16-compliant transformer)

IEC 60204-1 in the Machinery Directive specifies that, if AC power is supplied to a control circuit, a transformer must be used in the control circuit and the transformer must have separate (compound) windings.

### The Control Circuit Transformer Built into the S8VK Eliminates the Need for an Independent Transformer

IEC 60204-1 also states that a switch mode power supply that uses a transformer with separate (compound) windings satisfies the above condition. That means that a transformer in a control circuit can be eliminated by using this type of switch mode power supply.



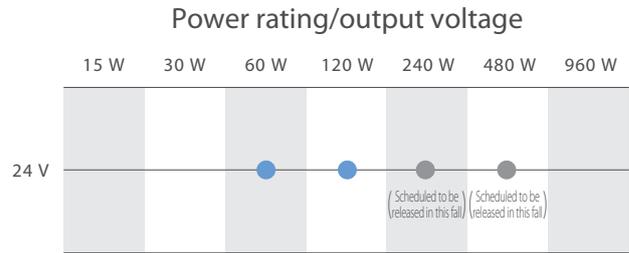
## Product Lineup

### S8VK-S

Compact, Push-In Plus Type



A Perfect Fit for Small Control Panels  
Coated PCBs for Better Resistance to Environment  
Push-In Plus Terminal Blocks for Easy Wiring



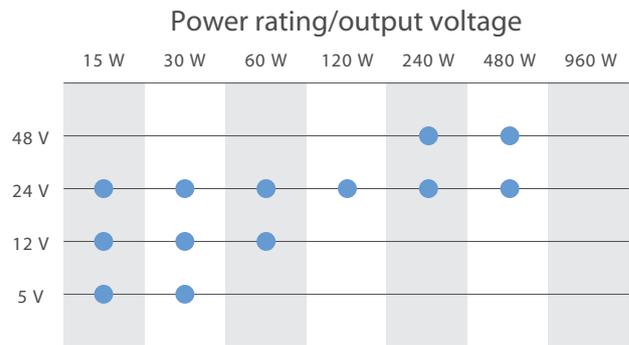
Power rating	Rated input voltage	Rated output voltage	Rated output current	Maximum boost current	Size (W×H×D) (mm)	Model
60 W	Single-phase 100 to 240 VAC (allowable range: 85 to 264 VAC or 90 to 350 VDC)	24 V	2.5 A	3 A	32×90×90	S8VK-S06024
120 W		24 V	5 A	6 A	55×90×90	S8VK-S12024

### S8VK-G

Single-phase input



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

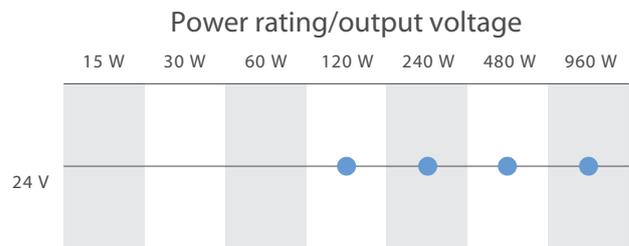


### S8VK-T

Three-phase, 400-VAC input



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

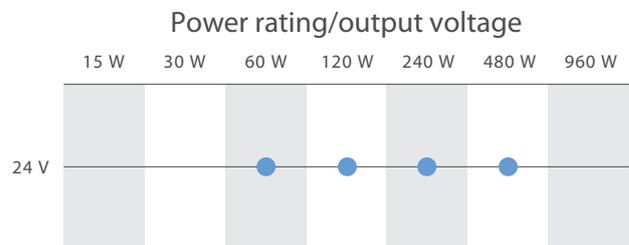


### S8VK-C

Cost-effective single phase



Cost-effective Single Phase Power Supply  
Universal input and Safety standards for worldwide applications  
Space-saving Compact Design



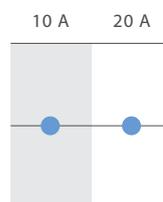
### S8VK-R

Redundancy Units



Contribute to build high reliable systems  
Compact and Cost-effective solution for Back-up applications  
Easy setup for system reliability requirement

#### Output current



# Products That Create New Value in Control Panels



Switch Mode Power Supplies S8VK-S



Uninterruptible Power Supply (UPS) S8BA



Power Monitors KM-N2



Digital Temperature Controllers E5CC-B/E5EC-B



Measuring and Monitoring Relays K8DT



Solid-state Timers H3DT



Solid-state Timers H3Y-□-B/H3YN-B



Solid-state Timers H3RN-□-B



Liquid Leakage Sensor Amplifiers K7L-□□B



Sockets for MY series, H3Y-□-B and H3YN-B PYF-PU-□



Sockets for G2R-S, H3RN-□-B and K7L-□□B P2RF-PU



Slim I/O Relays G2RV-SR



Slim I/O Relays G3RV-SR



I/O Relay Terminals G70V



Solid State Relays for Heaters G3PJ



DIN Track Terminal Blocks XW5T

Panel Assist Web

[www.ia.omron.com/solution/panel/](http://www.ia.omron.com/solution/panel/)



Proposal for Innovation of Control Panel Building  
Cat. No. Y218

Refer to the S8VK-S Switch Mode Power Supplies Datasheet (Cat. No. T205) for details.

Before you place an order, please read and understand "Agreement for Using the Product" available on Omron's latest "Best control devices Omron", "General Brochure" or Omron's website.

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