

# 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.

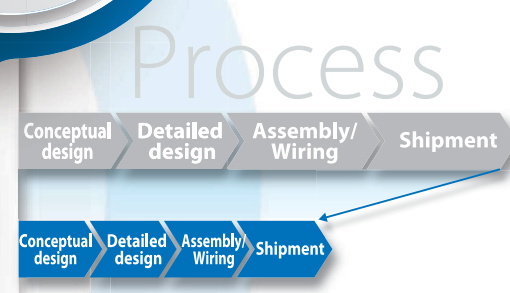
OMRON will continue to achieve a control panel evolution and process innovation through many undertakings starting with the shared Value Design for Panel <sup>\*1</sup> concept for the specifications of products used in control panels.

## \*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.



Panels

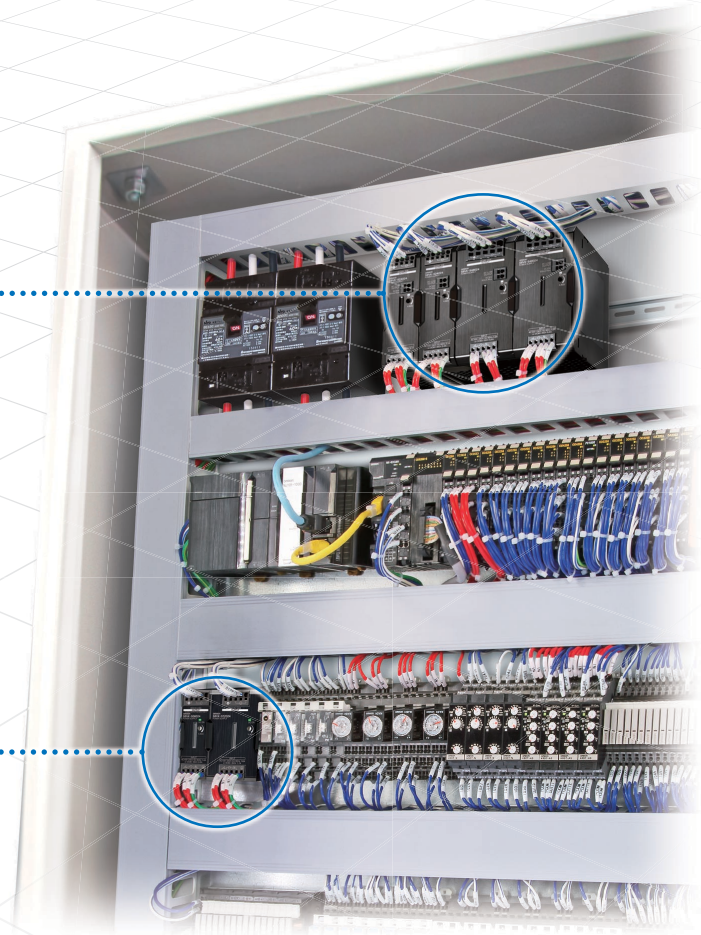
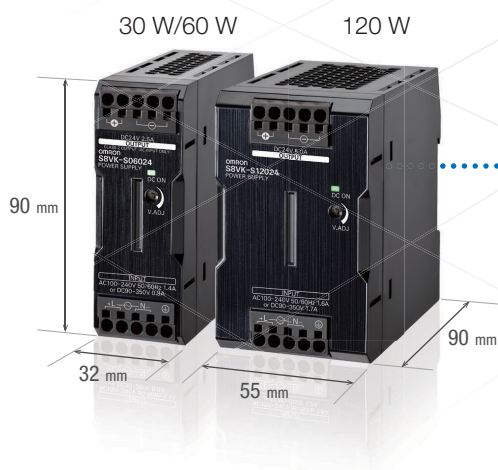
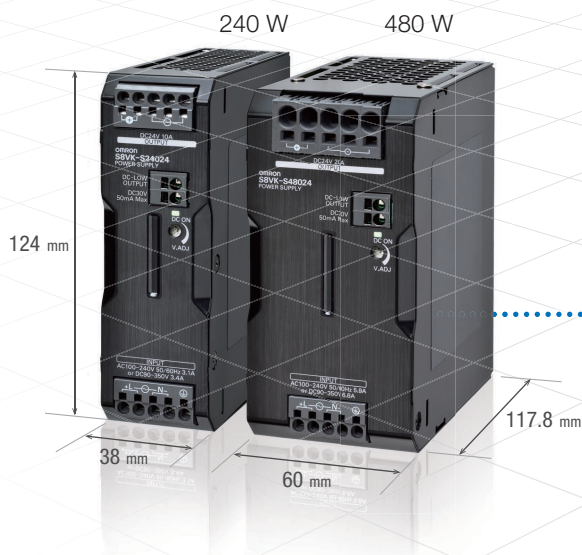
People

# For More Compact Control Panels

## World's Smallest Class of Global Power Supplies\* New 240- and 480-W Models Join the S8VK-S Series

Save on space and work, and achieve resistance to environments with the S8VK-S series: and now the new 240- and 480-W models join.

Its extended product line-up provides greater design flexibility.



\*According to OMRON investigation in September 2016.

# 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

**50%**  
less volume\*<sup>2</sup>

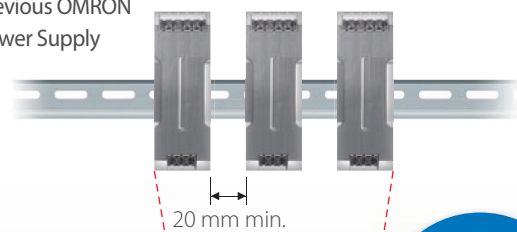
Previous OMRON Power Supply



S8VK-S(480W)

## Side-by-side Mounting to Reduce Installation Area\*<sup>3</sup>

Previous OMRON Power Supply



20 mm min.

S8VK-S (60 W)

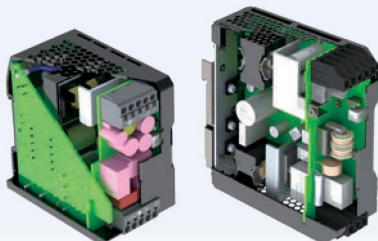


Installation area reduced by approx. **30%**\*<sup>2</sup>

\*1. According to OMRON investigation in September 2016.  
\*2. Comparison to previous OMRON Power Supply.  
\*3. Conditions apply to models and derating for side-by-side mounting. Refer to the S8VK-S series datasheet for details.

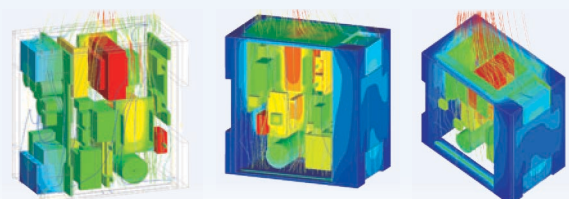
## Technology for Greater Efficiency and Less Loss

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.



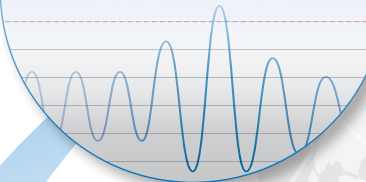
### Vibration resistance to 5G

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.



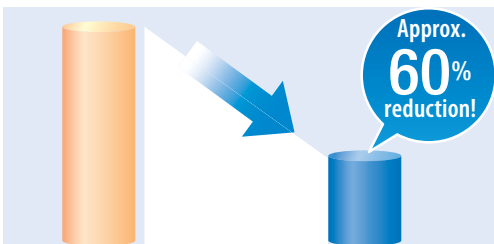
Comply with UL 508A, Standard for Industrial Control Panels for North America

# 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.

Note: The sense of insertion for connecting the wire to the terminal block depends on the wire diameter.

## 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> )	<b>125 N</b>	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

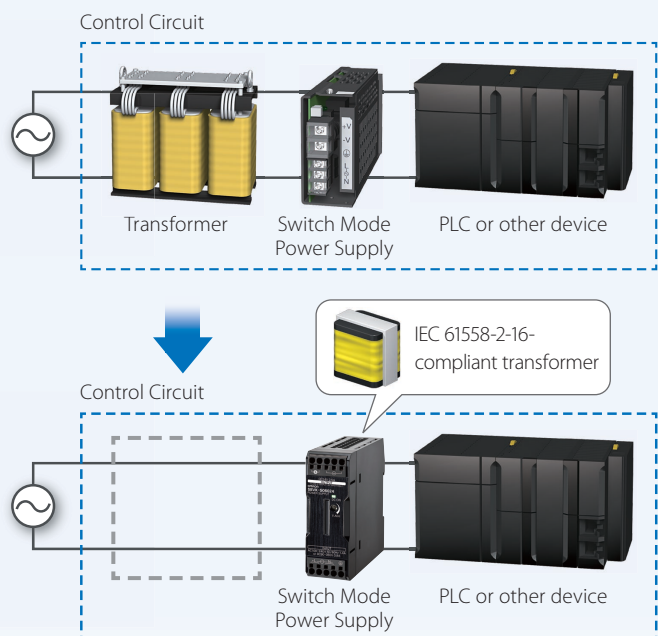
## Eliminating Transformers for Control Circuits

(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.



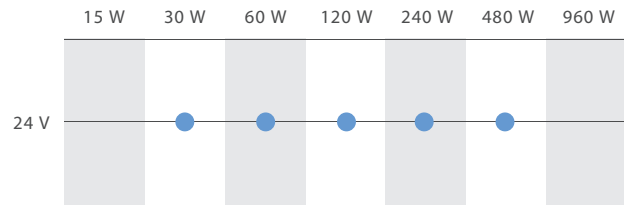
## Product Lineup

### S8VK-S



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

#### Power rating/output voltage



Power rating	Rated input voltage	Rated output voltage	Rated output current	Undervoltage alarm output	Maximum boost current	Size (W×H×D) (mm)	Model
30 W	100 to 240 VAC (allowable range: 85 to 264 VAC or 90 to 350 VDC)	24 V	1.3 A	No	1.56 A	32×90×90	S8VK-S03024
60 W		24 V	2.5 A	No	3 A	32×90×90	S8VK-S06024
120 W		24 V	5 A	No	6 A	55×90×90	S8VK-S12024
240 W		24 V	10 A	Yes	15 A	38×124×117.8	S8VK-S24024
480 W		24 V	20 A	Yes	30 A	60×124×117.8	S8VK-S48024

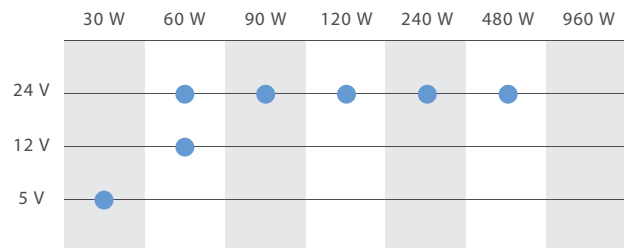
### S8VK-X



IoT power supply with communication/display functions

Ensure innovative equipment maintenance through power supply visualization.  
Take advantage of a slim design that follows our Value Design for Panel concept for improved equipment downsizing.

#### Power rating/output voltage



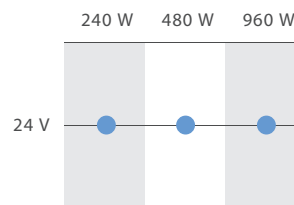
### S8VK-WA



Three-phase, 200 V input power supply

Solve three-phase balance problems using three-phase, 200 V input. Equipped with 3-LED/signal output for improved early detection of error locations.  
Save space while furthering downsizing efforts.

#### Power rating/output voltage



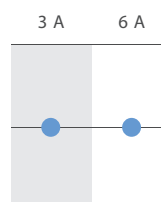
### S8V-NF

Noise Filter



DIN Rail Mounting Type Ideal for Control Panels  
Featuring a Slim Design that Saves Space  
Push-In Connections for Safe and Easy Wiring

#### Rated current



# Products That Create New Value in Control Panels



Switch Mode Power Supplies  
S8VK-S



Uninterruptible Power Supply (UPS)  
S8BA



Power Monitors  
KM-N2/KM-N3



Machine Automation Controllers  
NX Series  
NX1P



Measuring and Monitoring Relays  
K8DT



Solid-state Timers  
H3DT



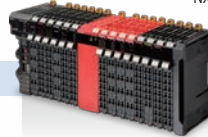
Solid-state Timers  
H3Y(N)-B



Solid-state Timers  
H3RN-B



Liquid Leakage Sensor Amplifiers  
K7L-B



EtherCAT Slave Terminals  
NX Series  
NX-IO



Sockets for Relays with Forcibly Guided Contacts (for G7SA)  
P7SA-PU



Common Sockets (for MY/H3Y(N)-B)  
PYF-PU(-L)



Common Sockets (for G2R-S/H3RN-B/K7L-B)  
P2RF-PU



Slim I/O Relays  
G2RV-SR



Slim I/O Relays  
G3RV-SR



I/O Relay Terminals  
G70V



DIN Track Terminal Block  
XWST



Pushbutton Switches Push-In Plus Terminal Block Series  
A22N-P/A30N-P/M22N-P



Emergency Stop Switches  
A22NE-P



Solid State Relays for Heaters  
G3PJ



Digital Temperature Controllers  
E5CC-B/E5EC-B



Digital Temperature Controllers  
E5CD-B/E5ED-B



Switch Mode Power Supplies  
S8VK-X



Noise Filter  
S8V-NF



Wireless Pushbutton Switches  
A2W



Motor Condition Monitoring Devices  
K6CM

Panel Assist Web

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



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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