

# Single-phase Voltage Relay

## K8AK-VS

### Ideal for Voltage Monitoring for Industrial Facilities and Equipment.



- Monitor for overvoltages or undervoltages.
- Manual resetting and automatically resetting supported by one Relay.
- One SPDT output relay, 5 A at 250 VAC (resistive load).
- Output relay can be switched between normally open and normally closed.
- Process control signal (0 to 10 V) and current splitter input supported.
- Output status can be monitored using LED indicator.
- Input frequency of 40 to 500 Hz supported.
- Inputs are isolated from the power supply.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.



Refer to *Safety Precautions* on page 9.  
Refer to page 8 for commonly asked questions.

## Ordering Information

### List of Models

Setting range	Power supply voltage	Model
1 to 10 V AC/DC	24 VAC/DC	<b>K8AK-VS2 24 VAC/DC</b>
3 to 30 V AC/DC	100 to 240 VAC	<b>K8AK-VS2 100-240 VAC</b>
15 to 150 V AC/DC		
20 to 200 V AC/DC	24 VAC/DC	<b>K8AK-VS3 24 VAC/DC</b>
30 to 300 V AC/DC	100 to 240 VAC	<b>K8AK-VS3 100-240 VAC</b>
60 to 600 V AC/DC		

## Ratings and Specifications

### Input Range

Model	Range*	Connection terminal	Setting range	Input impedance	Overload capacity
<b>K8AK-VS2</b>	0 to 10 V AC/DC	V1-COM	1 to 10 V AC/DC, 3 to 30 V AC/DC, 15 to 150 V AC/DC	Approx. 120 k $\Omega$	Continuous input at 115% of maximum input 10 s at 125% (up to 600 VAC)
	0 to 30 V AC/DC	V2-COM		Approx. 320 k $\Omega$	
	0 to 150 V AC/DC	V3-COM		Approx. 1.6 M $\Omega$	
<b>K8AK-VS3</b>	0 to 200 V AC/DC	V1-COM	20 to 200 V AC/DC, 30 to 300 V AC/DC, 60 to 600 V AC/DC	Approx. 1.2 M $\Omega$	
	0 to 300 V AC/DC	V2-COM		Approx. 1.7 M $\Omega$	
	0 to 600 V AC/DC	V3-COM		Approx. 3.1 M $\Omega$	

\* The range is selected using connected terminals.

# K8AK-VS

## Ratings

<b>Power supply voltage</b>	<b>Isolated power supply</b>	24 VAC/DC 100 to 240 VAC
<b>Power consumption</b>		24 VAC/DC: 2.0 VA/1.1 W max. 100 to 240 VAC: 4.6 VA max.
<b>Operating value setting range (SV)</b>		10% to 100% of maximum setting range K8AK-VS2: 1 to 10 V AC/DC 3 to 30 V AC/DC 15 to 150 V AC/DC K8AK-VS3: 20 to 200 V AC/DC 30 to 300 V AC/DC 60 to 600 V AC/DC
<b>Operating value</b>		100% operation at set value
<b>Reset value setting range (HYS.)</b>		5% to 50% of operating value
<b>Reset method</b>		Manual reset/automatic reset (switchable) <b>Note:</b> Manual reset: Turn OFF power supply for 1 s or longer.
<b>Operating time setting range (T)</b>		0.1 to 30 s
<b>Power ON lock time (LOCK)</b>		1 s or 5 s (Switched using DIP switch.)
<b>Indicators</b>		Power (PWR): Green, Relay output (RY): Yellow, Alarm outputs (ALM): Red
<b>Input impedance</b>		Refer to <i>Input Range</i> on previous page.
<b>Output relays</b>		One SPDT relay (NO/NC switched using DIP switch.)
<b>Output relay ratings</b>		Rated load Resistive load 5 A at 250 VAC 5 A at 30 VDC Maximum switching capacity: 1,250 VA, 150 W Minimum load: 5 VDC, 10 mA (reference values) Mechanical life: 10 million operations min. Electrical life: 5 A at 250 VAC or 30 VDC: 50,000 operations 3 A at 250 VAC or 30 VDC: 100,000 operations
<b>Ambient operating temperature</b>		-20 to 60°C (with no condensation or icing)
<b>Storage temperature</b>		-25 to 65°C (with no condensation or icing)
<b>Ambient operating humidity</b>		25% to 85% (with no condensation)
<b>Storage humidity</b>		25% to 85% (with no condensation)
<b>Altitude</b>		2,000 m max.
<b>Terminal screw tightening torque</b>		0.49 to 0.59 N·m
<b>Terminal wiring method</b>		Recommended wire Solid wire: 2.5 mm <sup>2</sup> Twisted wires: AWG16, AWG18 <b>Note:</b> 1. Ferrules with insulating sleeves must be used with twisted wires. 2. Two wires can be twisted together. Recommended ferrules Al 1,5-8BK (for AWG16) manufactured by Phoenix Contact Al 1-8RD (for AWG18) manufactured by Phoenix Contact Al 0,75-8GY (for AWG18) manufactured by Phoenix Contact
<b>Case color</b>		N1.5
<b>Case material</b>		PC and ABS, UL 94 V-0
<b>Weight</b>		Approx. 150 g
<b>Mounting</b>		Mounts to DIN Track.
<b>Dimensions</b>		22.5 × 90 × 100 mm (W×H×D)