

Single-phase Current Relay

K8AK-AS

Ideal for Current Monitoring for Industrial Facilities and Equipment.

- Monitor for overcurrents or undercurrents.
- Use commercially available CTs (CT current on secondary side: 0 to 1 A or 0 to 5 A).
- Manual resetting and automatically resetting supported by one Relay.
- Startup lock and operating time can be set separately.
- One SPDT output relay, 5 A at 250 VAC (resistive load).
- Output relay can be switched between normally open and normally closed.
- Output status can be monitored using LED indicator.
- Inputs are isolated from the power supply.



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



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

Ordering Information


List of Models

Setting range	Power supply voltage	Model
2 to 20 mA AC/DC, 10 to 100 mA AC/DC, 50 to 500 mA AC/DC	24 VAC/DC	K8AK-AS1 24 VAC/DC
	100 to 240 VAC	K8AK-AS1 100-240 VAC
0.1 to 1 A AC/DC, 0.5 to 5 A AC/DC, 0.8 to 8 A AC/DC	24 VAC/DC	K8AK-AS2 24 VAC/DC
	100 to 240 VAC	K8AK-AS2 100-240 VAC
10 to 100 A AC*, 20 to 200 A AC*	24 VAC/DC	K8AK-AS3 24 VAC/DC
	100 to 240 VAC	K8AK-AS3 100-240 VAC


*1 The K8AK-AS3 is designed to be used in combination with an OMRON K8AC-CT200L Current Transformer (CT). (Direct input is not possible.)

Accessory (Order Separately)

●OMRON CT

Appearance	Input range	Applicable Relay	Model
	10 to 100 A AC, 20 to 200 A AC	K8AK-AS3	K8AC-CT200L

●Commercially Available CTs*

Appearance	CT current on secondary side	Applicable Relay
	0 to 1 A AC, 0 to 5 A AC	K8AK-AS2

* If you use a commercially available CT, do not exceed the overload capacity of the K8AK-AS2.

K8AK-AS

Ratings and Specifications

Input Range

Model	Range ^{*1}	Connection terminal	Setting range	Input impedance	Input type	Overload capacity
K8AK-AS1	0 to 20 mA AC/DC	I1-COM	2 to 20 mA AC/DC, 10 to 100 mA AC/DC, 50 to 500 mA AC/DC	Approx. 5 Ω	Direct input	Continuous input at 120% of maximum input 1 s at 150%
	0 to 100 mA AC/DC	I2-COM		Approx. 1 Ω	Direct input	
	0 to 500 mA AC/DC	I3-COM		Approx. 0.2 Ω	Direct input	
K8AK-AS2	0 to 1 A AC/DC	I1-COM	0.1 to 1 A AC/DC, 0.5 to 5 A AC/DC, 0.8 to 8 A AC/DC	Approx. 0.12 Ω	Direct input or commercially available CT	
	0 to 5 A AC/DC	I2-COM		Approx. 0.02 Ω		
	0 to 8 A AC/DC	I3-COM		Approx. 0.02 Ω	Direct input	
K8AK-AS3	0 to 100 A AC	I2-COM	10 to 100 A AC ^{*2} , 20 to 200 A AC ^{*2}	---	OMRON CT	Continuous input at 120% with an OMRON CT (K8AC-CT200L). 30 s at 200% 1 s at 600% * CT capacity on primary side.
	0 to 200 A AC	I3-COM		---	OMRON CT	

*1 The range is selected using connected terminals.

*2 The K8AK-AS3 is designed to be used in combination with an OMRON K8AC-CT200L Current Transformer (CT). (Direct input is not possible.)

Ratings

Power supply voltage	Isolated power supply	24 VAC/DC 100 to 240 VAC
Power consumption		24 VAC/DC: 2.0 VA/1.1 W max. 100 to 240 VAC: 4.6 VA max.
Operating value setting range (SV)		10% to 100% of the maximum value of the setting range K8AK-AS1: 2 to 20 mA AC/DC 10 to 100 mA AC/DC 50 to 500 mA AC/DC K8AK-AS2: 0.1 to 1 A AC/DC (Compatible with commercially available CTs.) 0.5 to 5 A AC/DC (Compatible with commercially available CTs.) 0.8 to 8 A AC/DC K8AK-AS3: When used with the OMRON CT (K8AC-CT200L). 10 to 100 A AC 20 to 200 A AC
Operating value		100% operation at set value
Reset value setting range (HYS.)		5% to 50% of operating value
Reset method		Manual reset/automatic reset (switchable) Note: Manual reset: Turn OFF power supply for 1 s or longer.
Operating time setting range (T)		0.1 to 30 s
Startup lock time setting range (LOCK)		0 to 30 s (The startup lock timer starts when the input has reached approximately 30% or more of the set value.) Note: Enabled only for overcurrent operation.
Indicators		Power (PWR): Green, Relay output (RY): Yellow, Alarm outputs (ALM): Red
Input impedance		Refer to <i>Input Range</i> on this page.
Output relays		One SPDT relay (NO/NC switched using DIP switch.)
Output relay ratings		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/30 VDC: 100,000 operations
Ambient operating temperature		-20 to 60°C (with no condensation or icing)
Storage temperature		-25 to 65°C (with no condensation or icing)
Ambient operating humidity		25% to 85% (with no condensation)
Storage humidity		25% to 85% (with no condensation)
Altitude		2,000 m max.
Terminal screw tightening torque		0.49 to 0.59 N·m
Terminal wiring method		Recommended wire Solid wire: 2.5 mm ² Twisted wires: AWG16, AWG18 Note: 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
Case color		N1.5
Case material		PC and ABS, UL 94 V-0