

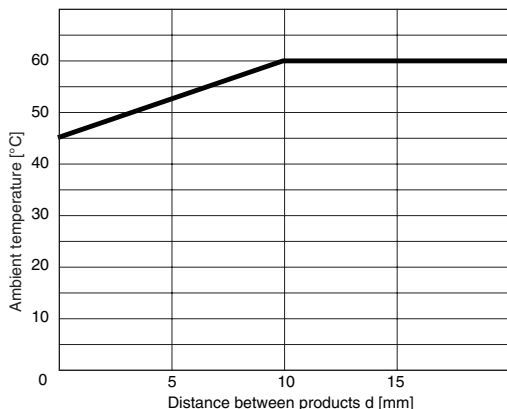
## Specifications

<b>Input frequency</b>		50/60 Hz
<b>Overload capacity</b>		Continuous input at 115% of maximum input, 10 s at 125% (up to 600 VAC).
<b>Repeat accuracy</b>	<b>Operating value</b>	±0.5% full scale (at 25°C and an ambient humidity of 65% at the rated power supply voltage, DC and 50/60 Hz sine wave input)
	<b>Operating time</b>	±50 ms (at 25°C and 65% humidity, rated power supply voltage)
<b>Applicable standards</b>	<b>Conforming standards</b>	EN 60947-5-1 Installation environment (pollution level 2, installation category III)
	<b>EMC</b>	EN 60947-5-1
	<b>Safety standards</b>	UL 508 (Recognition), Korean Radio Waves Act (Act 10564), CSA: C22.2 No.14, CCC: GB14048.5
<b>Insulation resistance</b>		20 MΩ Between all external terminals and the case Between all input terminals and all output terminals
<b>Dielectric strength</b>		2,000 VAC for 1 min Between all external terminals and the case Between all input terminals and all output terminals
<b>Noise immunity</b>		1,500 V power supply terminal common/normal mode Square-wave noise of ±1 μs/100 ns pulse width with 1-ns rise time
<b>Vibration resistance</b>		Frequency: 10 to 55 Hz, acceleration 50 m/s <sup>2</sup> 10 sweeps of 5 min each in X, Y, and Z directions
<b>Shock resistance</b>		100 m/s <sup>2</sup> , 3 times each in 6 directions along 3 axes
<b>Degree of protection</b>		Terminals: IP20

### ● Relationship of Mounting Distance between K8AK-PM Relays and Ambient Temperature (Reference Values)

The following diagram shows the relationship between the mounting distances and the ambient temperature.

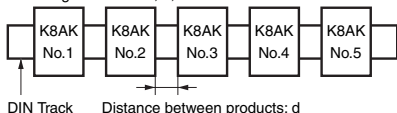
If the relay is used with an ambient temperature that exceeds these values, the temperature of the K8AK may rise and shorten the life of the internal components.



#### Test method

Sample: K8AK-PM

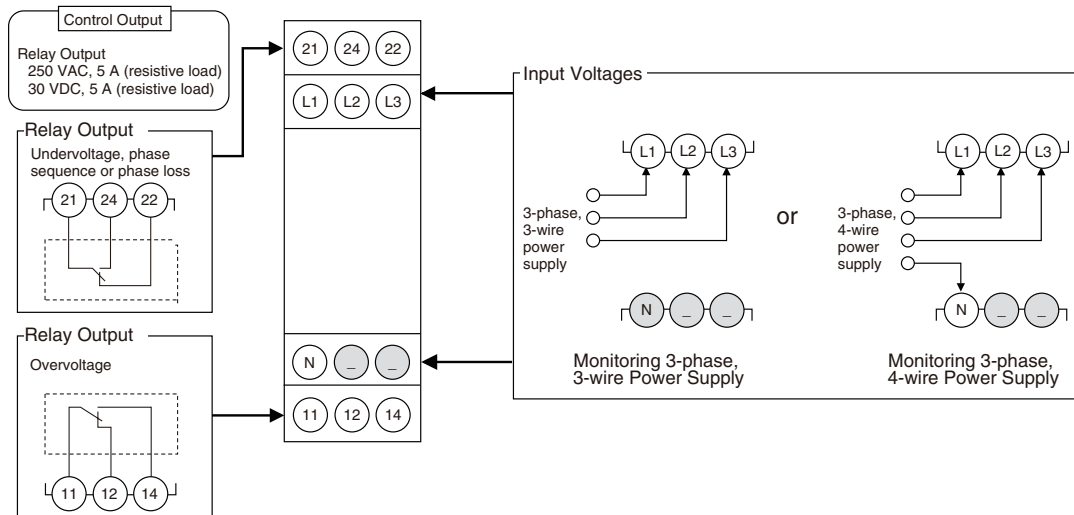
Mounting distances: 0, 5, and 10 mm min.



# K8AK-PM

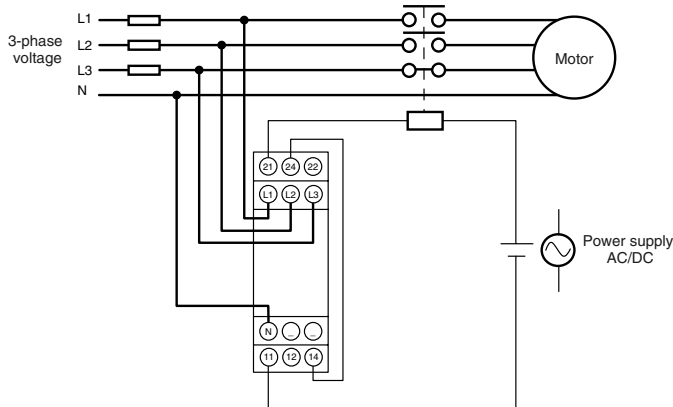
## Connections

### Terminal Diagram



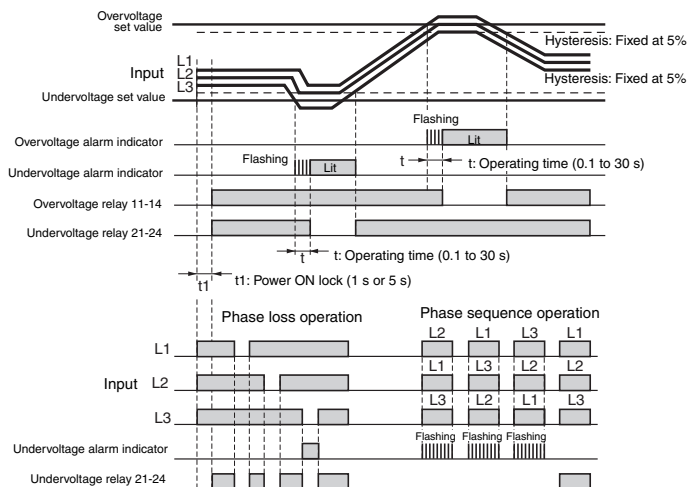
- Note:** 1. Do not connect anything to terminals that are shaded in gray.  
 2. Use the recommended ferrules if you use twisted wires.

### Wiring Example



### Timing Charts

#### Overvoltage/Undervoltage and Phase Sequence/Phase Loss Operation Diagram



- Note:** 1. The K8AK-PM□ output relay is normally operative.  
 2. The power ON lock prevents unnecessary alarms from being generated during the instable period when the power is first turned on. There is no relay output during timer operation.  
 3. Phase loss is detected by L1, L2, and L3 voltage drops. A phase loss will exist if any of the phases drops below 60% of the rated input.

### Operation Indicators

Item	Display			Contact operation	
	Ry indicator	Over indicator	Under indicator	Over relay	Under relay
Overvoltage	ON	ON	OFF	OFF	ON
Undervoltage	ON	OFF	ON	ON	OFF
Phase loss	OFF	OFF* <sup>1</sup>	ON* <sup>2</sup>	OFF * <sup>1</sup>	OFF
Phase-sequence	Incorrect phase	ON	OFF	Flashing* <sup>3</sup>	ON
	Correct phase	ON	OFF	OFF	ON

- \*<sup>1</sup> Over\_Ry turns OFF when phase loss is detected.  
 \*<sup>2</sup> L1 and L2 are also used for the power supply. If the voltage becomes very low, the indicator will turn OFF.  
 \*<sup>3</sup> The indicator will flash once per second after an incorrect phase is detected and once per 0.5 second during the detection time.