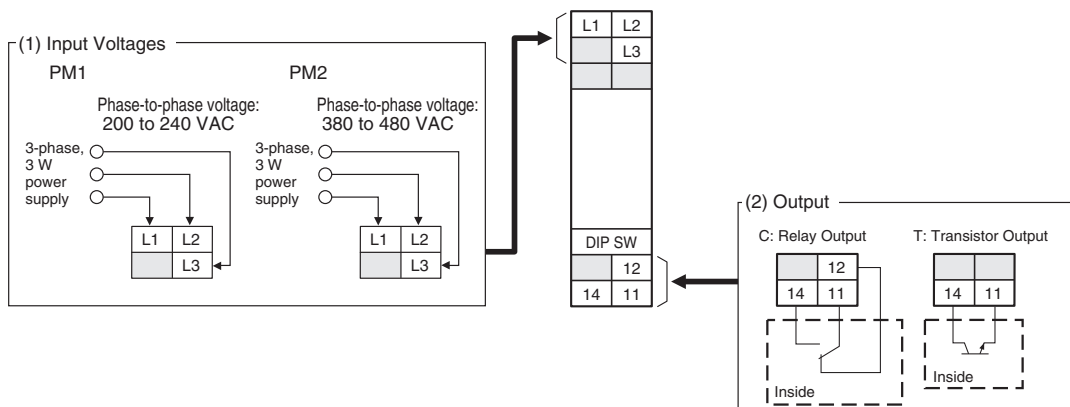


# Connections

## Terminal Diagram

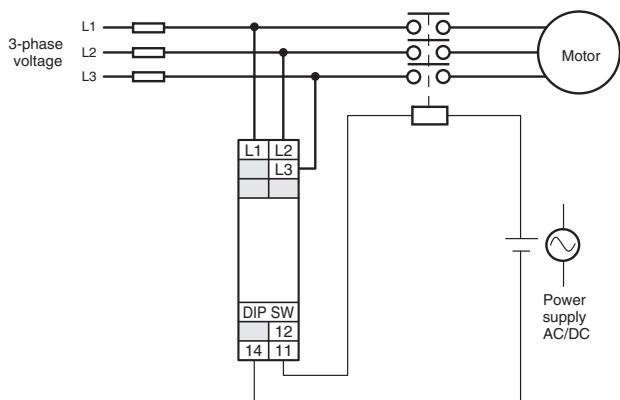
K8DT-PM1 C N  
(1) (2)



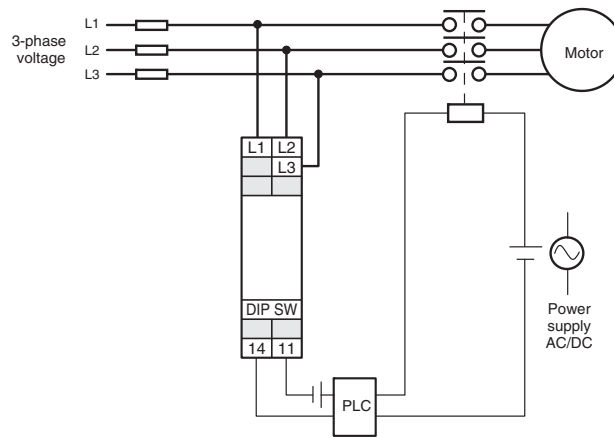
**Note:** Do not connect anything to terminals that are shaded in gray.

## Wiring Example

### Relay Output



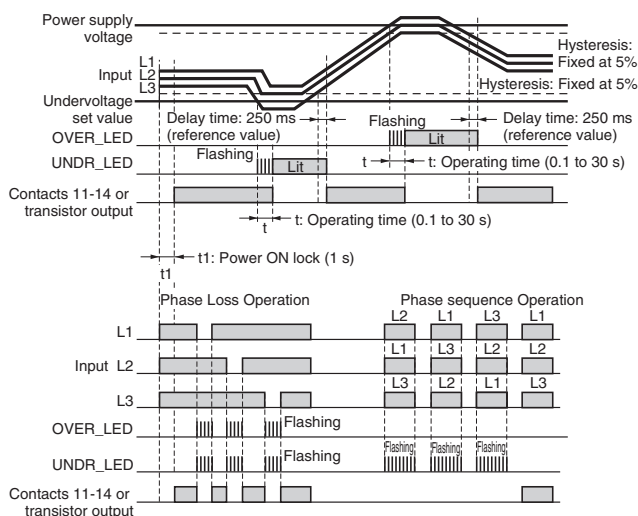
### Transistor Output



**Note:** Use copper wires with a rating of 75°C or an equivalent rating.

## Timing Charts

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



- Note:**
1. The K8DT-PM□ output contacts are normally operative.
  2. The power ON lock prevents unnecessary alarms from being generated during the unstable period when the power is first turned ON. There is no contact output during timer operation.
  3. Phase loss is detected by a drop in the L1, L2, or L3 voltage. A phase loss is detected when any of the phase-to-phase voltages goes below 60% of the rated input.
  4. L1 and L2 are also used for the power supply. If the voltage becomes very low, the Relay will not operate.
  5. Phase loss (on power supply side and load side) is not detected in the motor load during operation.

### Operation Table

Item	Indicators			Contact operation
	OUT_LED	OVER_LED	UNDR_LED	
Normal	ON	OFF	OFF	ON
Overvoltage	OFF	ON	OFF	OFF
Undervoltage	OFF	OFF	ON	OFF
Phase Loss	OFF	Flashing *1	Flashing *1	OFF
Phase sequence	OFF	OFF	Flashing *2	OFF

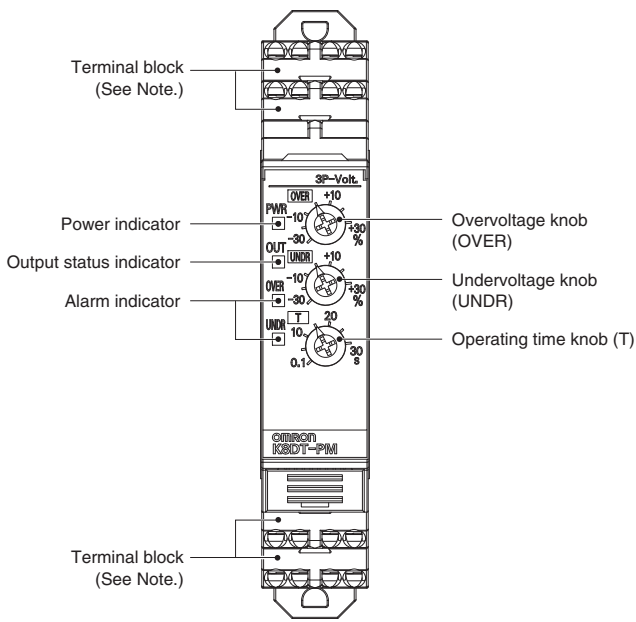
\*1. L1 and L2 are also used for the power supply. If the voltage becomes very low, the indicator will turn OFF.

\*2. The indicator will flash once per second after an incorrect phase is detected and once per 0.5 second during the detection time.

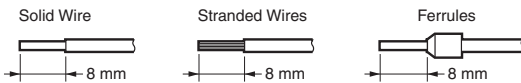
# K8DT-PM

## Nomenclature

### Front



**Note:** Use solid wires, stranded wires, or ferrules to connect to the terminals.  
To maintain the withstand voltage after connecting the terminals, insert 8 mm of exposed conductor into the terminal.



## Operation Methods

### Connections

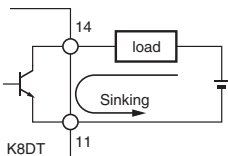
#### Input

Wire the input to the L1, L2, and L3 terminals (3-phase, 3-wire).  
Make sure the phase sequence is wired correctly. The Unit will not operate normally if the phase sequence is incorrect.

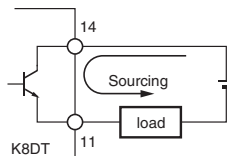
#### Outputs

For a relay output, the SPDT contacts are output on terminals 11, 12, and 14. For a transistor output, the output is on terminals 11 and 14.  
The internal circuit is of the transistor output NPN, but application is possible for either a sinking or sourcing output.

**In the case of sinking output applications**



**In the case of sourcing output applications**



### Indicators

Item	Meaning	
<b>Power indicator (PWR: Green)</b>	Lit when power is being supplied.*	
<b>Output status indicator (OUT: Yellow)</b>	Lights for output (lit for normal operation)	
<b>Alarm indicator</b>	<b>OVER: Red</b>	<ul style="list-style-type: none"> <li>Lights for overvoltage error. When the input exceeds the overvoltage value, the indicator flashes for the operating time to indicate the error status.</li> <li>Flashes for phase loss.</li> </ul>
	<b>UNDR: Red</b>	<ul style="list-style-type: none"> <li>Lights for undervoltage error. When the input exceeds the undervoltage value, the indicator flashes for the operating time to indicate the error status.</li> <li>Flashes for phase loss.</li> <li>Flashes for reversed phase error.</li> </ul>

\* This indicator uses the input across L1 and L2 as the internal power supply. It will not light unless there is an input across L1 and L2.

### Setting Knobs

Item	Description
<b>Overvoltage knob (OVER)</b>	Used to set from -30% to 30% of the rated input.
<b>Undervoltage knob (UNDR)</b>	Used to set from -30% to 30% of the rated input.
<b>Operating time knob (T)</b>	Used to set the operating time to 0.1 to 30 s.

