

## Ratings

|                                    |  |
|------------------------------------|--|
| Power supply voltage               | K8DT-VS□□□D: 24 VAC 50/60Hz, 24 VDC<br>K8DT-VS□□□A: 100 to 240 VAC 50/60Hz   |
| Power consumption                  | 24 VAC/DC: 1.8 VA/1 W max.<br>100 to 240 VAC: 2.5 VA max.  |
| Rated insulation voltage           | 600 VAC  |
| Operating value setting range (SV) | 10% to 100% of maximum setting range<br>K8DT-VS2: 1 to 10 V AC/DC<br>3 to 30 V AC/DC<br>15 to 150 V AC/DC<br>K8DT-VS3: 20 to 200 V AC/DC<br>30 to 300 V AC/DC<br>60 to 600 V AC/DC   |
| 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)<br><b>Note:</b> Manual reset: Turn OFF power supply for 1 s or longer.   |
| Operating time setting range (T)   | 0.1 to 30 s  |
| Power ON lock time                 | 1 s or 5 s (Switched using DIP switch.)  |
| Indicators                         | Power (PWR): Green, Relay output (RY): Yellow, Alarm outputs (ALM): Red  |
| Input impedance                    | Refer to <i>Input Range</i> on page 2.   |
| Output form                        | Relay Output: SPDT contact<br>Transistor Output: 1<br>Switchable between normally open and normally closed with a DIP switch setting.  |
| Output relay ratings               | Rated load<br>5 A at 250 VAC (Resistive load)<br>5 A at 30 VDC (Resistive load)<br>1 A at 250 VAC (Inductive load)<br>0.2 A at 48 VDC (Inductive load)<br>Minimum load: 5 VDC, 10 mA (reference values)<br>Mechanical life: 10 million operations min.<br>Electrical life: 5 A at 250 VAC or 30 VDC: 50,000 operations<br>3 A at 250 VAC or 30 VDC: 100,000 operations |
| Transistor output ratings          | Rated voltage: 24 VDC (maximum voltage: 26.4 VDC)<br>Maximum current: 50 mA DC   |
| 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% RH (with no condensation)   |
| Storage humidity                   | 25% to 85% RH (with no condensation)   |
| Altitude                           | 2,000 m max.   |
| Applicable wires                   | Stranded wires, solid wires, or ferrules   |
| Applicable wire size               | 0.25 to 1.5 mm <sup>2</sup> (AWG24 to AWG16)   |
| Wire insertion force               | 8 N max. for AWG20 wire  |
| Screwdriver insertion force        | 15 N max.  |
| Wire stripping length              | 8 mm   |
| Ferrule length                     | 8 mm   |
| Recommended flat-blade screwdriver | XW4Z-00B (Omron)<br>SZF 0.4 × 2.5 (Phoenix Contact)<br>210-719 (Wago)<br>SDI 0.4 × 2.5 × 75 (Weidmuller)   |
| Current capacity                   | 10 A (per pole)  |
| Number of insertions               | 50 times   |
| Case color                         | N1.5   |
| Case material                      | PC, UL 94 V-0  |
| Weight                             | Approx. 100 g  |
| Mounting                           | Mounts to DIN Track, or screw mounting   |
| Dimensions                         | 17.5 × 90 × 90 mm (W×H×D)  |

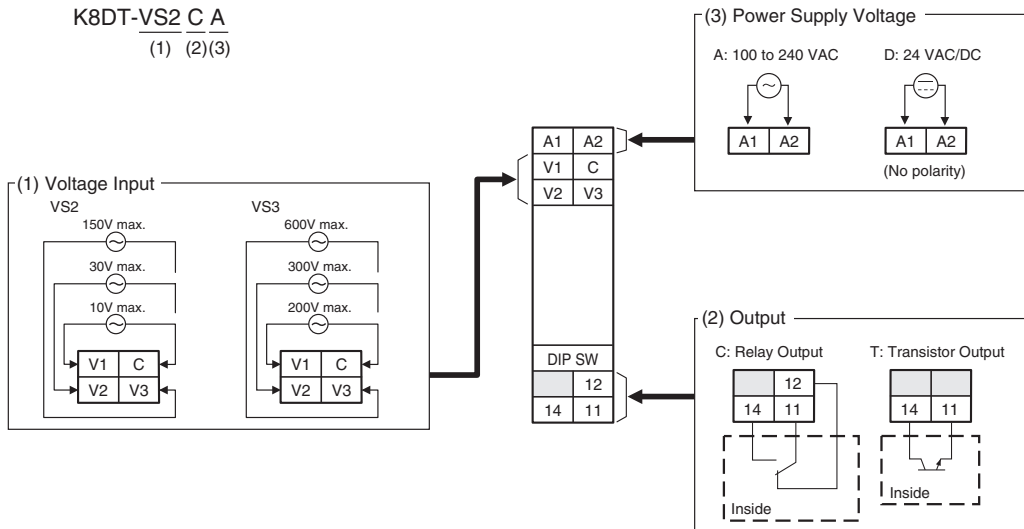
## Specifications

|                                     |  |  |  |  |
|-------------------------------------|--|--|--|--|
| Allowable operating voltage range   | 85% to 110% of rated power supply voltage                                |  |  |  |
| Allowable operating frequency range | 50/60 Hz ±5 Hz   |  |  |  |
| Input frequency range               | 40 to 500 Hz   |  |  |  |
| Overload capacity                   | Continuous input at 115% of maximum input, 10 s at 125% (up to 600 VAC). |  |  |  |
| Repeat accuracy                     | Operating value  | ±0.5% full scale (at 25°C and 65% humidity, rated power supply voltage)  |  |  |
|                                     | Operating time   | ±50 ms (at 25°C and 65% humidity, rated power supply voltage)  |  |  |
| Applicable standards                | Conforming standards   | EN 60947-5-1<br>Installation environment (pollution level 2, Overvoltage category III)   |  |  |
|                                     | EMC  | EN 60947-5-1   |  |  |
|                                     | Safety standards   | UL 60947-5-1 (Listing), Korean Radio Waves Act (Act 10564), CCC (GB14048.5)  |  |  |
| Insulation resistance               |  | 20 MΩ min.<br>Between external terminals and case<br>Between power supply terminals and input terminals<br>Between power supply terminals and output terminals<br>Between input terminals and output terminals |  |  |
|                                     | Dielectric strength  |  | 2,000 VAC for one minute<br>Between external terminals and case<br>Between power supply terminals and input terminals<br>Between power supply terminals and output terminals<br>Between input terminals and output terminals |  |
|                                     |  | Impulse withstand voltage  |  | 6 kV (between live terminals and exposed, non-charged metal parts)                                   |
|                                     |  |  | Noise immunity   |  |
| Vibration resistance                |  |  |  | Frequency: 10 to 55 Hz, 0.35-mm single amplitude<br>10 sweeps of 5 min each in X,Y, and Z directions |
|                                     | Shock resistance   |  | 100 m/s <sup>2</sup> , 3 times each in 6 directions along 3 axes   |  |
| Degree of protection                |  | Terminals: IP20  |  |  |

# K8DT-VS

## Connections

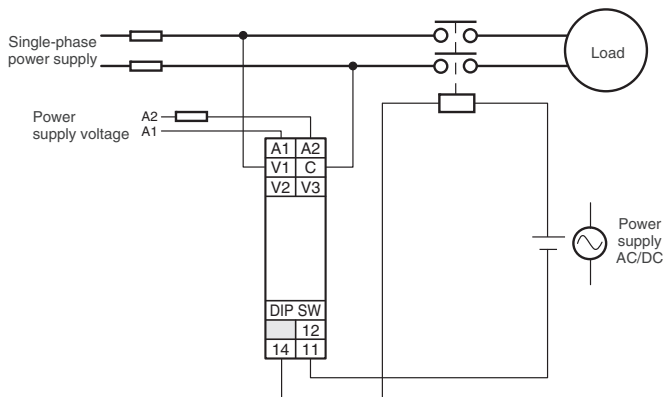
### Terminal Diagram



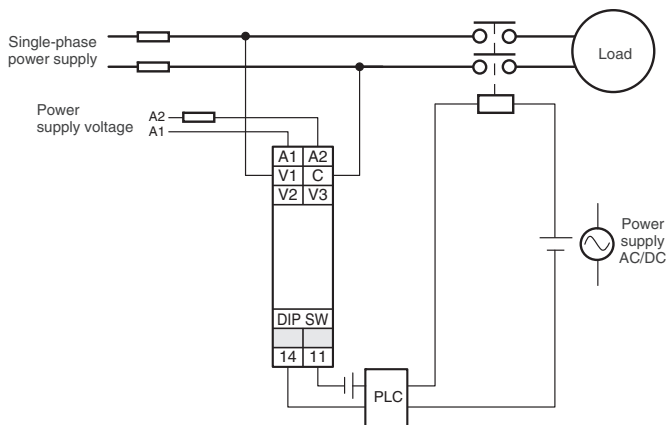
- Note:**
1. Do not connect anything to terminals that are shaded in gray.
  2. There is no polarity for the DC power supply input.
  3. For the voltage input, you can input only from the C terminal and one other terminal.
  4. Refer to Setting Ranges and Wiring Connections for information on the V1, V2, and V3 voltage input terminals.

### Wiring Example

#### Relay Output



#### Transistor Output



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