New Product

OMRON

Single-phase Overvoltage/Undervoltage Relay
K8DT-VW

Detect abnormal voltages applies to equipment to protect against equipment failure. Monitor for overvoltages and undervoltages simultaneously with one Relay.

- Monitor AC or DC voltages with one Relay.
- Settings for the operating value, hysteresis, and operating time.
- Width of 17.5 mm to reduce space required in panels.
- Push-In Plus Terminal that reduce wiring work.
  The use of cage clamps enables wiring with bare stranded wires.
  Double-insertion holes for crossover wiring (all terminals).
- UL listed for easy shipping to North America.
- Models added with transistor outputs for superior contact reliability.

⚠ Refer to *Safety Precautions* on page 8.
Refer to page 7 for commonly asked questions.

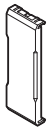
For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Single-phase Overvoltage/Undervoltage Relay

Setting range	Power supply voltage	Output	Model
1 to 10 V AC/DC 3 to 30 V AC/DC 15 to 150 V AC/DC	24 VAC/DC	Relay: SPDT contact output	**K8DT-VW2CD**
		Transistor	**K8DT-VW2TD**
	100 to 240 VAC	Relay: SPDT contact output	**K8DT-VW2CA**
		Transistor	**K8DT-VW2TA**
20 to 200 V AC/DC 30 to 300 V AC/DC 60 to 600 V AC/DC	24 VAC/DC	Relay: SPDT contact output	**K8DT-VW3CD**
		Transistor	**K8DT-VW3TD**
	100 to 240 VAC	Relay: SPDT contact output	**K8DT-VW3CA**
		Transistor	**K8DT-VW3TA**

Options (Order Separately)
Front Cover

Appearance	Model
	**Y92A-D1A**

Ratings and Specifications

Input Range

Model	Range ✻	Connection terminal	Setting range	Input impedance	Overload capacity
K8AK-VW2□□	0 to 10 V AC/DC	V1-COM	1 to 10 V AC/DC	Approx. 120 kΩ	Continuous input at 115% of maximum input. 10 s at 125% (up to 600 VAC)
	0 to 30 V AC/DC	V2-COM	3 to 30 V AC/DC	Approx. 320 kΩ	
	0 to 150 V AC/DC	V3-COM	15 to 150 V AC/DC	Approx. 1.6 MΩ	
K8AK-VW3□□	0 to 200 V AC/DC	V1-COM	20 to 200 V AC/DC	Approx. 1.2 MΩ	
	0 to 300 V AC/DC	V2-COM	30 to 300 V AC/DC	Approx. 1.7 MΩ	
	0 to 600 V AC/DC	V3-COM	60 to 600 V AC/DC	Approx. 3.1 MΩ	

✻ The range is selected using connected terminals.

Ratings

Power supply voltage	K8DT-VW□□D: 24 VAC 50/60 Hz, 24 VDC K8DT-VW□□A: 100 to 240 VAC 50/60 Hz
Power consumption	24 VAC/DC: 1.8 VA/1 W max. 100 to 240 VAC: 2.5 VA max.
Rated insulation voltage	600 VAC
Operating value setting range (AL1 and AL2)	10% to 100% of the maximum value of the setting range K8DT-VW2: 1 to 10 V AC/DC 3 to 30 V AC/DC 15 to 150 V AC/DC K8DT-VW3: 20 to 200 V AC/DC 30 to 300 V AC/DC 60 to 600 V AC/DC
Operating value	100% operation at set value
Reset value	5% of operating value (fixed)
Reset method	Manual reset/automatic reset (switchable) 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 output1 (AL1): Red, Alarm output2 (AL2): Red
Input impedance	Refer to *Input Range* on page 1.
Output form	Relay Output: SPDT contact Transistor Output: 1
Output relay ratings	Rated load 5 A at 250 VAC (Resistive load) 5 A at 30 VDC (Resistive load) 1 A at 250 VAC (Inductive load) 0.2 A at 48 VDC (Inductive load) 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
Transistor output ratings	Rated voltage: 24 VDC (maximum voltage: 26.4 VDC) 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^2 (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) SZF 0.4 × 2.5 (Phoenix Contact) 210-719 (Wago) 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 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. Between all external terminals and the case Between all power supply terminals and all input terminals Between all power supply terminals and all output terminals Between all input terminals and all output terminals
Dielectric strength		2,000 VAC for 1 min Between all external terminals and the case Between all power supply terminals and all input terminals Between all power supply terminals and all output terminals Between all input terminals and all output terminals
Impulse withstand voltage		6 kV (between live terminals and exposed, non-charged metal parts)
Noise immunity		Square-wave noise of 1 μs/100-ns pulse width with 1-ns rise time 100 to 240 VAC: 1,500 V power supply terminal common/normal mode 24 VAC: 1,500 V power supply terminal common/normal mode 24 VDC: 480 V power supply terminal common
Vibration resistance		Frequency: 10 to 55 Hz, 0.35-mm single amplitude 10 sweeps of 5 min each in X,Y, and Z directions
Shock resistance		100 m/s^2, 3 times each in 6 directions along 3 axes
Degree of protection		Terminals: IP20