**New Product** 

# OMRON

**CE** 

# **Temperature Monitoring Relay** K8DT-TH

# Ideal to prevent heater overheating. Self-latching output to contribute to safe equipment operation.

- Set the temperature with ultra-simple rotary switches.
- Digitally set the temperature to between 0 and 999°C in 1°C increments with one Relay (K8DT-TH1
- (K8DT-TH2 : Set to between 0 and 1,800°C in 10°C increments.)
- Connect a thermocouple or platinum resistance thermometer.
- 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.



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

Refer to Safety Precautions on page 9.

# **Ordering Information**

## **Temperature Input Models**

Power supply voltage	Input types	Setting units (setting range)	Output relays Type	Model
			Relay: SPDT contact output	K8DT-TH1CD
24 V AC/DC	Thermocouple or	Setting unit: 1°C or 1°F	Transistor	K8DT-TH1TD
100-240 V AC	thermometer	(0 to 999°C/°F)	Relay: SPDT contact output	K8DT-TH1CA
			Transistor	K8DT-TH1TA
24 V AC/DC			Relay: SPDT contact output	K8DT-TH2CD
	Thermocouple	Sotting unit: 10°C/°E *	Transistor	K8DT-TH2TD
100-240 V AC			Relay: SPDT contact output	K8DT-TH2CA
			Transistor	K8DT-TH2TA

\* Refer to Setting Ranges on page 3 for the setting ranges.

### Options (Order Separately) Front Cover



# **Ratings and Specifications**

# Ratings

	•				
Power s voltage	supply	K8DT-TH D: 24 VAC 50/60 Hz or 24 VDC K8DT-TH A: 100 to 240 VAC 50/60 Hz			
Allowat range	ole voltage	85% to 110% of power supply voltage			
Power consum	nption	24 VAC or 24 VDC: 2.1 VA max. or 1.2 W max. 100 to 240 VAC: 3.1 VA max.			
Rated in voltage	nsulation	253 VAC			
Sensor K8DT-TH1		Thermocouple: K, J, T, E; Platinum-resistance thermometer: Pt100, Pt1000			
inputs	K8DT-TH2	Thermocouple: K, J, T, E, B, R, S, PL II			
Setting	method	Set of three rotary DIP switches			
Indicato	ors	Power (PWR): Green, Alarm (ALM): Red			
Output	form	Relay Output: SPDT contact Transistor Output: 1			
Output ratings	relay	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/30 VDC: 100,000 operations			
Transistor output ratings		Rated voltage: 24 VDC (maximum voltage: 26.4 VDC) Maximum current: 50 mA DC			
Ambien tempera	it operating ature	-20 to 60°C (with no condensation or icing)			
Storage tempera	e ature	-25 to 65°C (with no condensation or icing)			
Ambien humidit	it operating ly	25% to 85% RH (with no condensation)			
Storage	e humidity	25% to 85% RH (with no condensation)			
Altitude	)	2,000 m max.			
Applica	ble wires	Stranded wires, solid wires, or ferrules			
Applica size	ble wire	0.25 to 1.5 mm <sup>2</sup> (AWG24 to AWG16)			
Wire ins	sertion force	8 N max. for AWG20 wire			
Screwd insertio	river n force	15 N max.			
Wire sti length	ripping	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 insertio	r of ons	50 times			
Case co	olor	N1.5			
Case m	aterial	PC, UL 94 V-0			
Weight		Approx. 100 g			
Mountin	ng	Mounts to DIN Track, or screw mounting			
Dimens	ions	$17.5 \times 90 \times 90 \text{ mm} (W \times D \times H)$			

# Specifications

Measurement accuracy		K8DT-TH1 : ±1% of the setting range or ±4 °C, whichever is larger. K8DT-TH2 : ±1% of the setting range (±1%FS).			
Hysteresis	width	2°C			
Sampling o	ycle	100 ms			
Applicable	Approved standards	EN 61010-1 Installation environment: Overvoltage category II, pollution level 2			
standards	EMC	EN 61326-1 *			
	Safety standards	UL 61010-1 (Listing) Korean Radio Waves Act (Act 10564)			
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		3,000 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 wir voltage	thstand	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 resi	stance	100 m/s <sup>2</sup> , 3 times each in 6 directions along 3 axes			
Degree of protection		Terminals: IP20			

\*Industrial Electromagnetic Environment (EN/IEC 61326-1, Table 2)

# Setting Ranges K8DT-TH1

### Centigrade



### K8DT-TH2 Centigrade



## Fahrenheit

PL II

1,300

s

1,700

	Input	к	J	т	E	Pt100	Pt1000
Setting temperature range	1000 800 600 400 200 0	999	999	700	999	999	999
Minimum se increment	etting				1°F		

#### increment Fahrenheit

Minimum setting

	Input	к	J	т	E	В	R	S	PL II
						3,200			
	3,200								
	3,000						3,000	3,000	
	2,900								
	2,800								
	2,700								
	2,600								
	2,500								
	2,400	2 300							2 300
	2,300	2,000	1						2,000
	2,200								
	2,100		1						
	2,000								
	1,900								
Setting	1,800								
temperature	1,700								
temperature	1,500		1,500						
range	1,400								
	1.300								
	1,200								
	1,100				1,100				
	1,000								
	900								
	800			700					
	700			700					
	600								
	500								
	400								
	300					300			
	100								
	0								
		0	0	0	0		0	0	0
Minimum set increment	ting				10	٥°F			

10°C

### **Temperature Input Range**

K8DT-TH1	٩	С	٥	F
Input type	Lower limit	Upper limit	Lower limit	Upper limit
К	-20	-20 1019		1039
J	-20	870	-40	1039
Т	-20	420	-40	740
E	-20	620	-40	1039
Pt100	-20	870	-40	1039
Pt1000	-20	870	-40	1039

K8DT-TH2	0	С	٥	F
Input type	Lower limit	Upper limit	Lower limit	Upper limit
К	-20	1320	-40	2340
J	-20	870	-40	1540
т	-20	420	-40	740
E	-20	620	-40	1140
В	0 1820		0	3240
R	-20	1720	-40	3040
S	-20	-20 1720		3040
PL II	-20	1320	-40	2340

# 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.

# **Timing Charts**





### Functions SV Protection

This function protects (i.e., prohibits changing) the alarm setting, operating method, and modes for the Temperature Monitoring Relay that have been set on the rotary switches and DIP switch. The protection function is activated by pressing the output latch reset button on the Temperature Monitoring Relay for at least 5 s. The power indicator will flash when the protection is activated. The protection function can be released by pressing the output latch reset button on the Temperature Monitoring Relay for at least 5 s. The power indicator will light while the protection is being reset.

ALM\_LED

# 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.

Solid Wire	Stranded Wires	Ferrules
► 8 mm	► 8 mm	→ 8 mm

### **Temperature Setting Switch**



The rotary switches are used to set the alarm value. Point the arrow to the required number.

- Terminal block (See note.) 4 5 6 З. • 2 2 X100 4 5 6 Power indicator Temperature setting switch for increments of 1,000°C/°F З, T Temperature setting Alarm indicator 2 switch for increments X10 4 5.6 of 100°C/°F 3 Temperature setting 24 ¢ Temperature unit switch for increments of 10°C/°F ٩þ (Black out ×م the unnecessary label °C or °F.) LATCH RESET LATCH RESET button \* KSDT-TH2 Terminal block (See note.) Error (ALM indicator: Flashing) One of the following items 1 to 3 has occurred.
  - The sensor circuit is disconnected or the temperature setting is out of the specified range.
  - 2. The temperature setting is out of the specified range.
  - 3. There is a problem in the internal circuits.

#### Corrections

- 1. Check for incorrect wiring, circuit disconnections, short circuits, and whether the input type and temperature settings are correct.
- 2. Disable SV Protect Mode.
- **3.** If the wiring and settings are correct, reset the power supply. If the Unit resumes normal operation, the problem may have been caused by noise.

If the Unit does not resume normal operation, it must be replaced.

- \* Latching and the SV Protect Mode are stored in non-volatile memory. An error may occur if the data is updated more than one million times.
- \* If you press and hold the LATCH\_RESET button for 5 seconds or longer, the SV Protect Mode will go into effect. When SV Protect Mode is enabled, the PWR indicator flashes. To disable the SV Protect Mode, press and hold the
  - LATCH\_RESET Button for at least 5 seconds.

# **Operation Method**

### Connections

### 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 of the transistor output is NPN, but application is possible for either a sinking or sourcing output.

#### In the case of sinking output applications





## **DIP Switch Settings**



Turn OFF the power to the Temperature Monitoring Relay before you change the DIP switch settings. The DIP switch settings take effect when the power is turned ON. Use a flat-blade screwdriver to set the DIP switch pins.

Note: Open the DIP switch cover to set the DIP switch. Keep the DIP switch cover closed while the power supply to the Relay is ON.

DIP Switch

### DIP Switch Functions K8DT-TH1

R_SW3	100°C/°F units (0 to 9)			
R_SW2	10°C/°F units (0 to 9)			
<b>R_SW1</b> 1°C/°F units (0 to 9)				
Note: The default setting is 0°C.				

3 1 2 4 5 6 7 8 ON O1 ON PIN off  $\bullet\downarrow$ OFF Upper limit • -----------------------Alarm Mode Lower limit 0 --------------------With latching • ----------------------Latching Without latching ---0 ------------------Normally open ----• ----------------**Output drive** method Normally closed -------0 ----------------°C --------• -------------Temperature unit °F -----------0 ---------Not used. κ • • • ------------J ---------------• •  $\mathbf{O}$ т ----------------• 0 • Е --------------• 0 0 Input type Pt100 --------------0 • • Pt1000 0 0 --------------• NOT USE -------------0  $\mathbf{O}$ • NOT USE ---------------0 0 0

Note: All pins are set to OFF by default.

#### K8DT-TH2

R_SW3	1,000°C/°F units (0 to 3) <b>Note:</b> A temperature setting error occurs if this switch is set to a value from 4 to 9.
R_SW2	100°C/°F units (0 to 9)
R_SW1	10°C/°F units (0 to 9)
Nete: The defe	

Note: The default setting is 0°C.

PIN	ON OÎ OFF ●↓	ON OFF	2	3	4	5	6	7	8
Alarm Mode	Upper limit	•							
Alarmi Mode	Lower limit	0							
Latabing	With latching		•						
Latening	Without latching		О						
Output drive	Normally open			•					
method	Normally closed			О					
Temperature	°C				•				
unit	°F				О				Notucod
	к					•	•	•	Not used.
	J					•	•	О	
	т					•	О	•	
Input type	E					•	0	О	
	В					О	•	•	-
	R					О	•	О	
	S					О	О	•	
-	PL II					О	О	О	

Note: All pins are set to OFF by default.

# Dimensions

# Temperature Monitoring Relay K8DT-TH







## **Options (Order Separately)**

Front Cover Y92A-D1A



# **Optional Parts for DIN Track Mounting**



# Safety Precautions

Be sure to read the precautions for all models in the website at the following URL: http://www.ia.omron.com/.

### Warning Indications

	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction, or undesirable effects on product performance.

### Meaning of Product Safety Symbols

Â	Used to warn of the risk of electric shock under specific conditions.
$\bigcirc$	Used for general prohibitions for which there is no specific symbol.
	Used to indicate prohibition when there is a risk of minor injury from electrical shock or other source if the product is disassembled.
	Used for general mandatory action precautions for which there is no specified symbol.



There is a risk of minor electrical shock, fire, or device failure. Do not allow any pieces of metal, conductors, or cutting chips that occur during the installation process to enter the product.

Explosions may cause minor injuries. Do not use the product in locations with inflammable or explosive gases.

There is a risk of minor electrical shock, fire, or device failure. Do not disassemble, modify, repair, or touch the inside of the product.

If the setting does not match the element to be controlled, the product may behave unexpectedly and damage the machine or cause accidents. Set the Temperature Monitoring Relay as described below.



- Make sure that all parameters are set suitably for the monitor targets.
- Make sure that the power supply is turned OFF before you change any DIP switch setting. The DIP switch settings take effect when the power is turned ON.

If the Relay fails, monitoring and alarm outputs may fail to operate. This may result in physical damage to the facilities, equipment, or other devices that are connected to it. To reduce this risk, inspect the Relay regularly. To maintain safety in the event of malfunction of the Relay, take appropriate safety measures, such as installing a monitoring device on a separate line.



Use of the product beyond its life may result in contact welding or burning. Make sure to consider the actual operating conditions and use the product within its rated load and electrical life count. The life of the output relay varies significantly with the switching capacity and switching conditions.

If the Relay is used with incorrect wiring, fire may occasionally occur, possibly resulting in physical damage. Check the wiring for mistakes before you turn ON the power supply.



If the wire insertion length is insufficient, fire may occasionally occur, possibly resulting in physical damage. Insert the wires all the way to the back.

The terminal block may be damaged if you insert a flat-blade screwdriver in the release hole with excessive force. Insert the flat-blade screwdriver into the release holes with a force of 15 N or less.



### Precautions for Safe Use

- 1. Do not use or store the product in the following locations.
  - Locations subject to water or oil
  - Locations subject to direct radiant heating equipment
  - Outdoor locations or under direct sunlight
  - Locations subject to dust or corrosive gases (sulfurizing gases, ammonia gases, etc.)
  - Locations subject to rapid temperature changes
  - Locations prone to icing and dew condensation
  - Locations subject to vibration and large shocks
  - · Locations subject to wind and rain
  - · Locations subject to direct radiant heating equipment
  - Locations subject to static electricity or noise
  - Locations subject to insects or small animals
- Use and store the product in a location where the ambient temperature and humidity are within the specified ranges. If applicable, provide forced cooling.
- 3. Check terminal polarity when wiring and wire all connections correctly. The power supply terminals do not have polarity.
- 4. Do not wire the input and output terminals incorrectly.
- 5. Make sure the power supply voltage and loads are within the specifications and ratings for the product.
- 6. Make sure the type of the thermocouple matches the input type that the Temperature Monitoring Relay is designed for.
- If you need to extend the length of the lead wires on the thermocouple, make sure to match the type of thermocouple and always use compensating conductors.
- 8. Point the arrows on the rotary switches to the required numbers. Do not set a switch midway between two positions. Malfunction could result from an improper setting.
- 9. To extend the lead wires on the platinum resistance thermometer, use lead wires with a low resistance (5  $\Omega$  or less per wire), and make the resistance equal on all three lead wires.
- 10.Make sure the ferrule terminals for wiring are of the specified size.
- 11. The stripping length is 8 mm. Insert the wires all the way to the back.
- 12.Do not connect anything to terminals that are not being used.13.Use a power supply that will reach the rated voltage within 1 second after the power is turned ON.
- 14.After you turn ON the power is takes 2 seconds for the outputs of the Temperature Monitoring Relay to stabilize. Take this time into account when you design the control panel.
- 15.Allow at least 30 minutes for the product to warm up. During this time, the correct temperature will not be detected and the output may malfunction.
- 16.Keep wiring separate from high voltages and power lines that draw large currents. Do not place product wiring in parallel with or in the same path as high-voltage or high-current lines.
- 17.Do not install the product near equipment that generates high frequencies or surges.
- 18. The product may cause incoming radio wave interference. Do not use the product near radio wave receivers.
- 19.Install an external switch or circuit breaker and label it clearly so that the operator can quickly turn OFF the power supply.
- **20.**When discarding the product, properly dispose of it as industrial waste.
- Make sure the indicators operate correctly. Depending on the application environment, the indicators may deteriorate prematurely and become difficult to see.
- 22. The maximum terminal temperature is 80°C. Use wires with a temperature resistance of at least 80°C.
- Do not use the product if it is accidentally dropped. The internal components may be damaged.
- 24.Be sure you understand the contents of this catalog and handle the product according to the instructions provided.
- 25.Do not install the product in any way that would place a load on it.26.When using the product, remember that the power supply terminals carry a high voltage.
- 27. The product must be handled only by trained electrician.
- Prior to operation, check the wiring before you supply power to the product.
- 29. Do not install the product immediately next to heat sources.
- **30.**Perform periodic maintenance.
- **31.**Do not wire anything to the release holes.
- 32. When you insert a flat-blade screwdriver into a release hole, do not tilt or twist the screwdriver. The terminal block may be damaged.
  33. Insert a flat-blade screwdriver into the release holes at an angle. The
- terminal block may be damaged if the screwdriver is inserted straight in. 34.Do not allow the flat-blade screwdriver to fall when you are holding it in a release hole.

- **35.**Do not bend a wire past its natural bending radius or pull in it with excessive force. Doing so may break the wires.
- 36.Do not insert more than one wire into each terminal insertion hole.37.To prevent wiring materials from smoking or igniting, confirm wire ratings and use the wiring materials given in the following table.

Recommended wire	Stripping length (Ferrules not used)	
0.25 to 1.5 mm <sup>2</sup> /AWG 24 to 16	8 mm	

38.Use only the specified wires for wiring.39.When wiring the terminals, allow some leeway in the wire length.

#### Precautions for Correct Use

# Observe the following operating methods to prevent failure and malfunction.

- 1. Use the power supply voltage, input power, and other power
- supplies and converters with suitable capacities and rated outputs.When cleaning the product, do not use thinners or solvents. Use commercial alcohol.
- 3. If you use stranded wires, make sure that there are no loose wire strands.
- If you wire crossovers and connect terminal blocks in parallel, a large current will flow. Make sure that the current does not exceed 10 A.
- The terminal block may be damaged if the recommended tool is not used. Use the recommended flat-blade screwdriver to operate the release holes.

# Correct Mounting Direction, Mounting, and Removing

#### Mounting to DIN Track

To mount the Relay to a DIN Track, hook the Relay onto the DIN Track and press the Relay in the direction of the arrow until you hear it lock into place.





#### **Removing from the DIN Track**

To remove the Relay, insert a screwdriver into the hook on the top or bottom and pull out the hook to release the Relay.



 Leave at least 30 mm of space between the product and other devices to allow easy installation and removal.

#### **Screw Mounting**

- 1. Pull out the two hooks on the back of the Relay to the outside until you hear them click in place.
- 2. Insert M3 screws into the hook holes and secure the Relay.



torque: 0.5 to 0.6 N·m.

#### Adjusting the Setting Knobs

• Use a flat-blade screwdriver to adjust the setting knobs.



#### Connecting Wires to the Push-In Plus Terminal Block Part Names of the Terminal Block



#### Connecting Wires with Ferrules and Solid Wires

Insert the solid wire or ferrule straight into the terminal block until the end strikes the terminal block.



If a wire is difficult to connect because it is too thin, use a flat-blade screwdriver in the same way as when connecting stranded wire.

#### **Connecting Stranded Wires**

Use the following procedure to connect the wires to the terminal block.

- Hold a flat-blade screwdriver at an angle and insert it into the release hole. The angle should be between 10° and 15°. If the flat-blade screwdriver is inserted correctly, you will feel the spring in the release hole.
- 2. With flat-blade screwdriver still inserted into the release hole, insert the wire into the terminal hole until it strikes the terminal block.
- 3. Remove the flat-blade screwdriver from the release hole.



#### **Checking Connections**

- After the insertion, pull gently on the wire to make sure that it will not come off and the wire is securely fastened to the terminal block.
- If you use a ferrule with a conductor length of 10 mm, part of the conductor may be visible after the ferrule is inserted into the terminal block, but the product insulation distance will still be satisfied.

#### **Removing Wires from the Push-In Plus Terminal Block**

Use the following procedure to remove wires from the terminal block. The same method is used to remove stranded wires, solid wires, and ferrules.

- 1. Hold a flat-blade screwdriver at an angle and insert it into the release hole.
- 2. With the flat-blade screwdriver still inserted into the release hole, remove the wire from the terminal insertion hole.
- 3. Remove the flat-blade screwdriver from the release hole.



# Recommended Ferrules and Crimp Tools Recommended ferrules

Applicable wire		Ferrule Conductor	Stripping length	Recommended ferrules		
(mm²)	(AWG)	Length (mm)	(Ferrules used)	Phoenix Contact product	Weidmuller product	Wago product
0.25	24	8	10	AI 0,25-8	H0.25/12	216-301
		10	12	AI 0,25-10		
0.34	22	8	10	AI 0,34-8	H0.34/12	216-302
		10	12	AI 0,34-10		
0.5	20	8	10	AI 0,5-8	H0.5/14	216-201
		10	12	AI 0,5-10	H0.5/16	216-241
0.75	18	8	10	AI 0,75-8	H0.75/14	216-202
		10	12	AI 0,75-10	H0.75/16	216-242
1/1.25	18/17	8	10	AI 1-8	H1.0/14	216-203
		10	12	AI 1-10	H1.0/16	216-243
1.25/1.5	17/16	8	10	AI 1,5-8	H1.5/14	216-204
		10	12	Al 1,5-10	H1.5/16	216-244
Recommended crimp tool				CRIMPFOX6 CRIMPFOX6T-F	PZ6 roto	Variocrimp4

Note: 1. Make sure that the outer diameter of the wire coating is smaller than the inner diameter of the insulation sleeve of the recommended ferrule.

Make sure that the ferrule processing dimensions conform to the following figures.



#### Recommended Flat-blade Screwdriver

Use a flat-blade screwdriver to connect and remove wires. Use the following flat-blade screwdriver. The following table shows manufacturers and models as of 2015/Dec.



Model	Manufacturer
ESD 0,40×2,5	Wera
SZS 0,4×2,5 SZF 0-0,4×2,5 <b>*</b>	Phoenix Contact
0.4×2.5×75 302	Wiha
AEF.2,5×75	Facom
210-719	Wago
SDI 0.4×2.5×75	Weidmuller

\* OMRON's exclusive purchase model XW4Z-00B is available to order as SZF 0-0,4×2,5 (manufactured by Phoenix Contact).

### A EN/IEC Standard Compliance

• Refer to the contents of this datasheet for cable selection and other conditions for compliance with EMC standards.

#### Precaution on EN Standard Compliance

The K8DT complies with EN 61010-1 when it is built into a panel, but observe the following handling methods to ensure compliance with the requirements of this standard.

#### Wiring

Overvoltage category II

- Pollution degree 2
- Open-frame Device
- If basic, double, or reinforced insulation is required, use the basic, double, or reinforced insulation defined in IEC 60664 that is suitable for the maximum applied voltage for the clearance, solid insulation, and other factors.
- There is basic insulation between the power supply terminals and input terminals.
- There is basic insulation between the power supply terminals and output terminals.
- There is basic insulation between the input terminals and output terminals.
- Operating section must have reinforced or double insulation.
- The sides of the case are not isolated.
- Connect the output contacts (contacts with different polarity) so that they reach the same potential.



# **Terms and Conditions Agreement**

### Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

### Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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