The smart way to protect your system
K8 series measuring and monitoring relays

- Long-term contact reliability
- Control panel downsizing
- Push-in plus technology for easy wiring

industrial.omron.eu/k8series
New value for control panels

Control panels: The heart of manufacturing sites
Evolution in control panels results in large evolution in production facilities. And if control panel design, control panel manufacturing processes, and human interaction with them are innovated, control panel manufacturing becomes simpler and takes a leap forward. We will continue to achieve a control panel evolution and process innovation through many undertakings starting with the shared Value Design for Panel *1 concept for the specifications of products used in control panels.

*1 Value Design for Panel
Our shared Value Design for Panel (herein after referred to as Value Design) concept for the specifications of products used within control panels will create new value for our control panel customers. Combining multiple products that share the Value Design concept will further increase the value provided.
Your overall equipment protection

Do you face any of the issues listed below:
1. Alarms do not occur before equipment is damaged.
2. Protection is necessary because of poor power supply quality overseas.
3. Preventing excessive temperature increases in heaters is necessary.
4. Control panels for electrode-based water level control must be downsized.
5. Measuring and Monitoring Relays that conform to international safety standards are necessary.

Let the K8DT solve your problems
Install the K8DT for predictive maintenance and problem prevention measures for your equipment.

Motor Protection Relays
Detect abnormalities in motors and other equipment.

Temperature Monitoring Relays
Detect excessive temperature increases in heaters.

Liquid Level Control Relays
Detect abnormal water levels.

Press etc.
Industrial furnaces etc.
Washing equipment etc.
Alarm function with threshold value setting

**Input signal**
A voltage, current, temperature (thermocouple or platinum resistance thermometer), or water level (electrode) can be input.

**Alarm output**
You can select a relay or transistor output.

K8DT-VS Relay for voltage monitoring
Operation Timing Chart

K8DT-PH Phase-sequence Phase-loss Relay
K8DT-TH Temperature Monitoring Relay
K8DT-LS Conductive Level Switch

Motor Protection Relays

Temperature Monitoring Relays

Liquid Level Control Relays

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Motor
Inverter
Alarm
Alarm output

L1
L2
L3
Phase
seq
Incorrect phase sequence if detected, an alarm output is sent to notify the PLC.

Thermocouple input
Power supply voltage
+100 to 24V VAC
+24VDC

Industrial furnace
Relay alarm output

Pump
Water or other liquid

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The smart way to protect your system
Long-term contact reliability

**Industry first: Models with transistor outputs**

Use transistor outputs to take advantage of the long-term contact reliability. The operating frequency of Measuring and Monitoring Relays is low, which means the surfaces of relay contacts can deteriorate and reduces reliability. Particularly for microcomputer board and PLC inputs, a microcurrent of 5 mA or less for switching reliability is required, making transistor outputs superior.

**Visualization of Fault Status**

Visualization of fault status can be achieved by inputting it to a PLC or other host devices. In turn, visualization of fault status contributes to rapid recovery from equipment faults. The use of transistor outputs enables stable input of fault signals to a PLC or other host devices, helping to create IoT equipment.

**Low power consumption design enables side-by-side mounting**

The power consumption has been greatly reduced in comparison with commercially available measuring and monitoring relays. A lower power consumption means that internal heat generation is suppressed, which enables side-by-side mounting.

**Reliability even in high noise environments**

There is no heat generated by high-frequency noise, which enhances reliability.

The K8DT-series Relays, however, use a switch mode power supply. There is no heat resulting from inverter noise, for safe, reliable application.
Control panel downsizing and reduce wiring

This is the shape that resulted from efforts to downsize panels and reduce wiring.

- The slim body is only 17.5 mm wide to enable control panel downsizing
- To simplify wiring, push-in plus technology are positioned at the front
- To simplify changing settings, the setting switches were placed on the front

Push-in plus technology for easy wiring

Fast wiring via push-in plus technology
Just insert the wires – no tools required. Do all your wiring in less than half the time needed with screw terminals.

Greatly reduce wiring with push-in plus technology

Wiring possible with stranded wires
You can insert wires with pin terminals or ferrules, or you can also insert solid wires or stranded wires.
Motor protection application

K8DT-A□/V□/-P□

Application
Ideal for monitoring for error trends in motors and other equipment (e.g., equipment with three-phase motors, expensive equipment, and equipment with compressors).

Features
High reliability for worry-free application.

Greater Reliability
The product lineup includes new models with transistor outputs for greater reliability when inputting signals to PLCs.

Long Service Life
Low power consumption and low heat generation design achieve a long service life.

Applicable Standards
Certified for main safety standards. Applicable with the voltage specifications of various countries.

Handles Power Supply Voltages Worldwide

<table>
<thead>
<tr>
<th>Area</th>
<th>Power supply voltage</th>
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<tbody>
<tr>
<td>China</td>
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<tr>
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<td>Three-phase, 400 or 415 V</td>
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<tr>
<td>Thailand</td>
<td>Three-phase, 380 V</td>
</tr>
<tr>
<td>USA</td>
<td>Three-phase, 460 or 480 V</td>
</tr>
<tr>
<td>Europe</td>
<td>Three-phase, 380, 400, or 415 V</td>
</tr>
</tbody>
</table>
Temperature Monitoring Relays

K8DT-TH

Application

Ideal for redundant prevention of excessive temperature increases in heaters (e.g. Fluid Panel Display (FPD) semiconductors and industrial ovens and ceramic).

Features

1. Slim design enables addition to narrow spaces.
2. Rotary switches simplify setting procedure.
3. Safety considerations with a manual reset button.

Redundant prevention of excessive temperature increases

Simple temperature settings
Rotary switch settings in 1°C increments from 0 to 999°C. *For the K8DT-TH1.

Safety manual reset button
The alarm status is held when a fault occurs.

Make settings without turning ON the power supply.
Easy Trial Operation

Restart the system after confirming onsite safety.
Liquid level control

K8DT-LS

**Application**

Ideal for liquid level detection and control in tanks (e.g., infrastructure water level and circulation equipment).

**Features**

1. The slim body helps you downsize control panels.
2. Long-awaited models with long-life transistor outputs.
3. ON-delay timer built in to eliminate contact chattering.

**Tankwater level control**

(Example of water discharge control)

Models with transistor outputs added

Using a Relay with a transistor output eliminates worries about contact wear.

On-delay timer

Prevent contact chattering due to waves on the water surface.

Operating sensitivity knob (10 kΩ to 100 kΩ)

Timer knob (0.1 to 10 s)
Product Lineup

K8DT

Slim and Extended
Push-in plus technology. Models with transistor outputs are available.

Optional Front Cover for the K8DT (Sold Separately)
Y92A-D1A

K8AK

Extended
Screw terminals

K8DS

Compact and Simple
Screw terminals

Certified for global Safety standards for easy equipment exporting.

Model | Terminal block | Output | Single-phase | Three-phase | Temperature monitoring | Water-level control
---|---|---|---|---|---|---
K8AK | Screws | Relay output | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
K8DS | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
K8DT | Push-In Plus | Transistor output | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

*1 CCC certification does not apply to the K8DT-TH.
## Selection Guide

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<th>Alarm operation</th>
<th>Function</th>
<th>Width</th>
<th>Terminal block</th>
<th>Output</th>
<th>Model</th>
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<td>Upper or lower limit (switched)</td>
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<td>22.5 mm Screws</td>
<td>One SPDT relay output</td>
<td>K8AK-AS</td>
<td></td>
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<tr>
<td></td>
<td>Upper and lower limits (redundant operation)</td>
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<td>22.5 mm Screws</td>
<td>One SPDT relay output or one transistor output</td>
<td>K8AT-AS</td>
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<tr>
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<td>Upper or lower limit (switched)</td>
<td></td>
<td>22.5 mm Screws</td>
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<td>K8AV-AS</td>
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<td>K8AT-AS</td>
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</tr>
<tr>
<td><strong>Motor protection</strong></td>
<td>Voltage</td>
<td>Fixed</td>
<td>22.5 mm Screws</td>
<td>One DPDT relay output</td>
<td>K8AP-AS</td>
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<tr>
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<td>Upper or lower limit (switched)</td>
<td></td>
<td>22.5 mm Screws</td>
<td>One SPDT relay output or one transistor output</td>
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<tr>
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<td>Water supply</td>
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<td>22.5 mm Screws</td>
<td>One SPDT relay output or one transistor output</td>
<td>K8AT-AS</td>
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Would you like to know more?

OMRON EUROPE
+31 (0) 23 568 13 00
industrial.omron.eu
omron.me/socialmedia_eu

Sales & Support Offices

Austria
Tel: +43 (0) 2236 377 800
industrial.omron.at

Belgium
Tel: +32 (0) 2 466 24 80
industrial.omron.be

Czech Republic
Tel: +420 234 602 602
industrial.omron.cz

Denmark
Tel: +45 43 44 00 11
industrial.omron.dk

Finland
Tel: +358 (0) 207 464 200
industrial.omron.fi

France
Tel: +33 (0) 1 56 63 70 00
industrial.omron.fr

Germany
Tel: +49 (0) 2173 680 00
industrial.omron.de

Hungary
Tel: +36 1 399 30 50
industrial.omron.hu

Italy
Tel: +39 02 326 81
industrial.omron.it

Netherlands
Tel: +31 (0) 23 568 11 00
industrial.omron.nl

Norway
Tel: +47 (0) 22 65 75 00
industrial.omron.no

Poland
Tel: +48 22 458 66 66
industrial.omron.pl

Portugal
Tel: +351 21 942 94 00
industrial.omron.pt

Russia
Tel: +7 495 648 94 50
industrial.omron.ru

South Africa
Tel: +27 (0) 11 579 2600
industrial.omron.co.za

Spain
Tel: +34 902 100 221
industrial.omron.es

Sweden
Tel: +46 (0) 8 632 35 00
industrial.omron.se

Switzerland
Tel: +41 (0) 41 748 13 13
industrial.omron.ch

Turkey
Tel: +90 212 467 30 00
industrial.omron.com.tr

United Kingdom
Tel: +44 (0) 1908 258 258
industrial.omron.co.uk

More Omron representatives
industrial.omron.eu