

The smart way to protect your system

K8 series measuring and monitoring relays

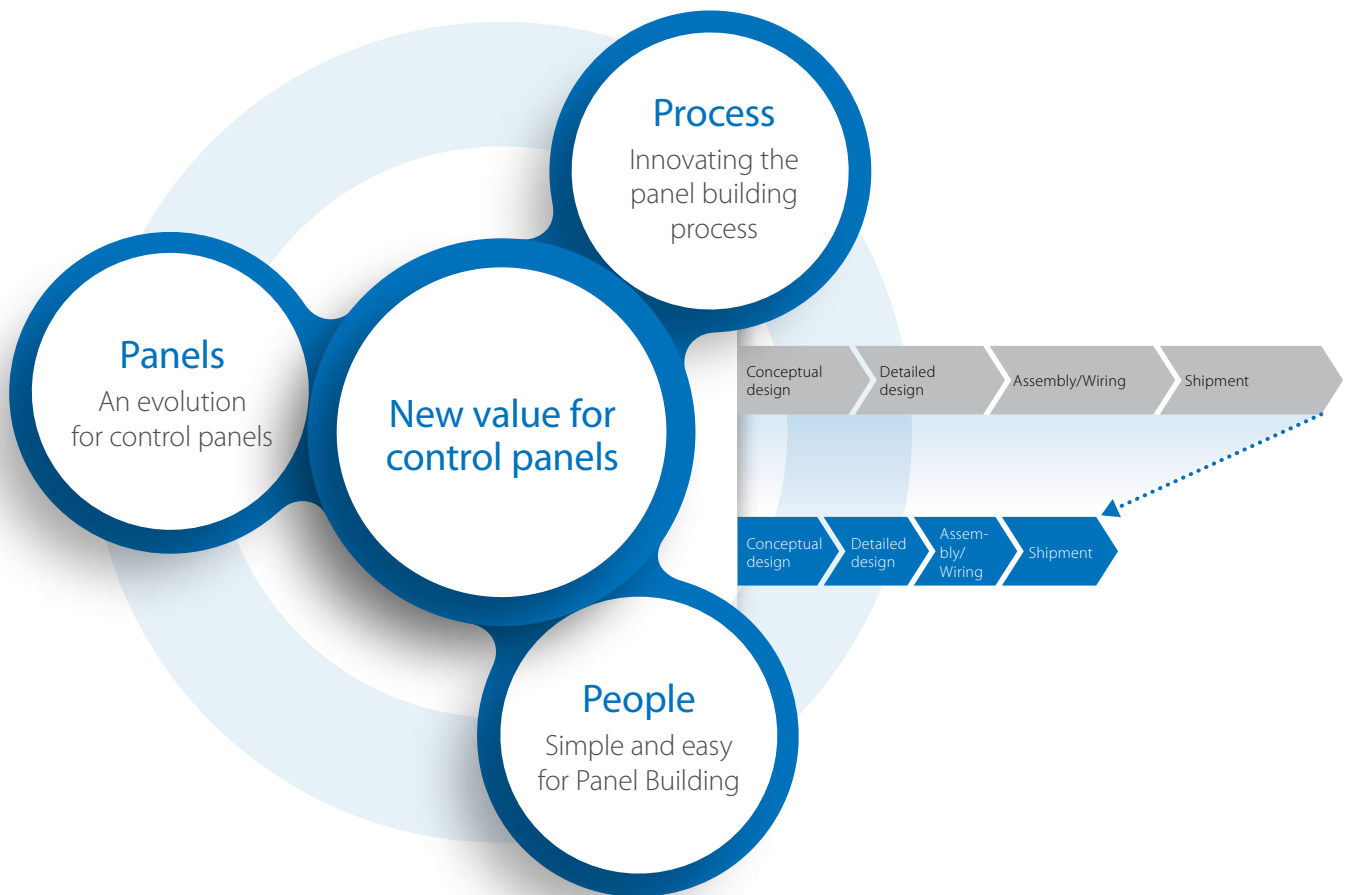


- Long-term contact reliability
- Control panel downsizing
- Push-in plus technology for easy wiring

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

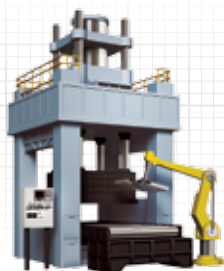
Install the K8DT for predictive maintenance and problem prevention measures for your equipment.



K8DT-AS K8DT-AW K8DT-VS K8DT-VW K8DT-PH K8DT-PM K8DT-PZ K8DT-TH K8DT-LS
Motor Protection Relays (Current detection, voltage detection, reverse operation detection, etc.)
Temperature Monitoring Relays Liquid Level Control Relays

Motor Protection Relays

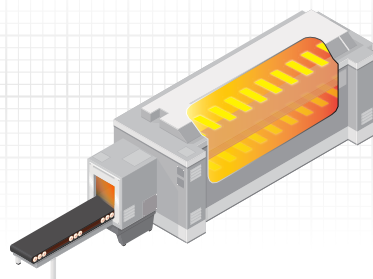
Detect abnormalities in motors and other equipment.



Press etc.

Temperature Monitoring Relays

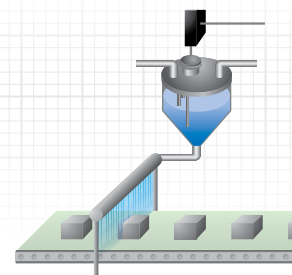
Detect excessive temperature increases in heaters.



Industrial furnaces etc.

Liquid Level Control Relays

Detect abnormal water levels.



Washing equipment etc.

Alarm function with threshold value setting

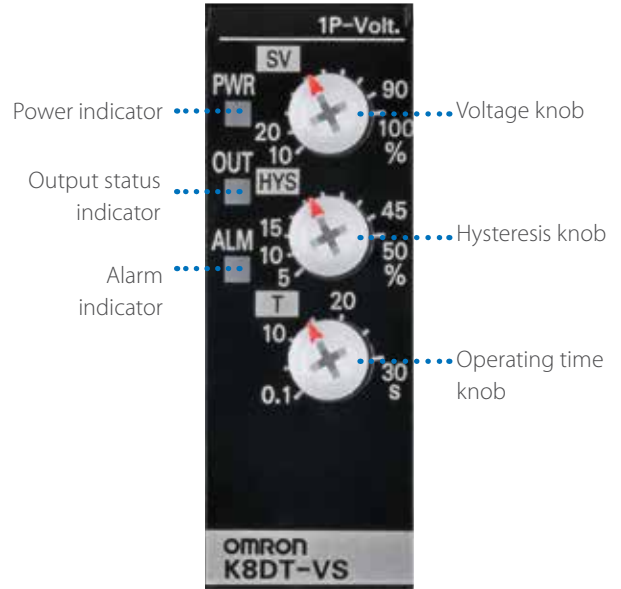
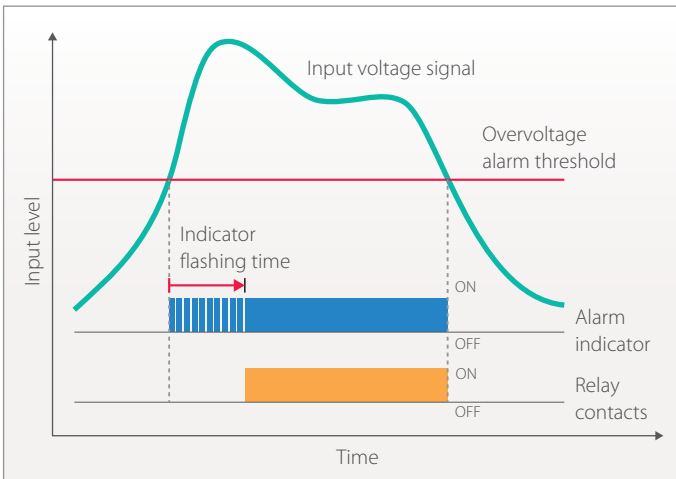
Input signal*

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

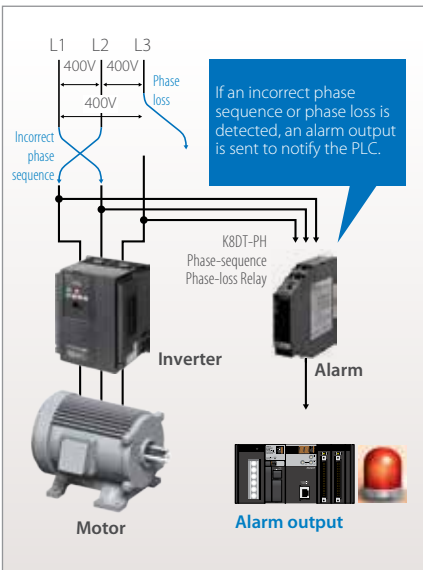
Alarm output

You can select a relay or transistor output.

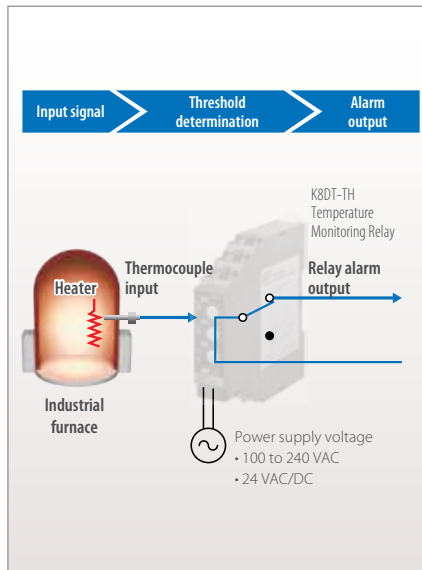
K8DT-VS Relay for voltage monitoring
Operation Timing Chart



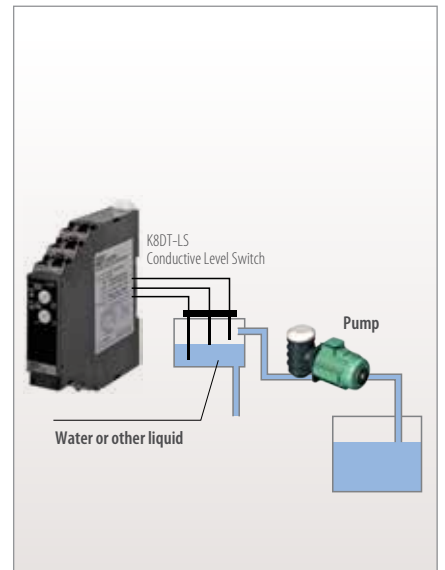
Motor Protection Relays



Temperature Monitoring Relays



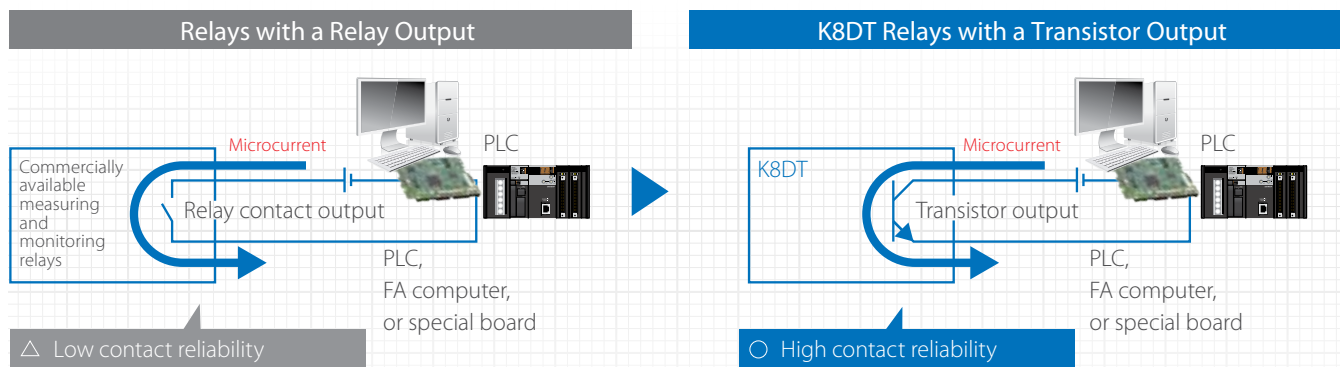
Liquid Level Control Relays



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.



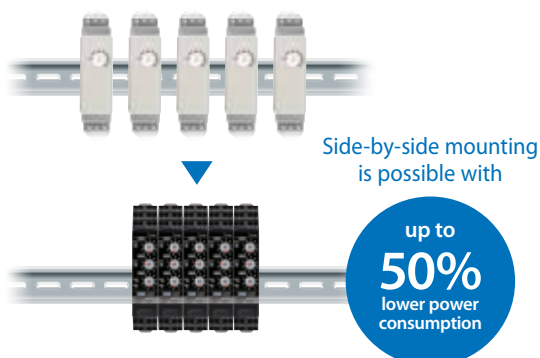
Visualization of Fault Status

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

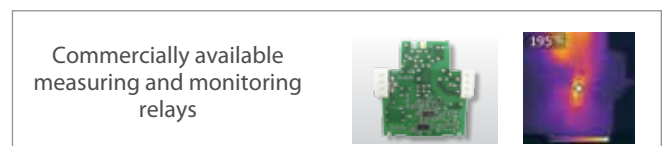
The power consumption has been greatly reduced in comparison with commercially available measuring and monitoring relays. A lower power consumption means that internal heat generation is suppressed, which enables side-by-side mounting.

Commercially Available Measuring and Monitoring Relays



Reliability even in high noise environments

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



Commercially available measuring and monitoring relays use a capacitor voltage divider, which generates heat due to high-frequency inverter noise and leads to a shorter product life.



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



Setting Switches on the Front Panel



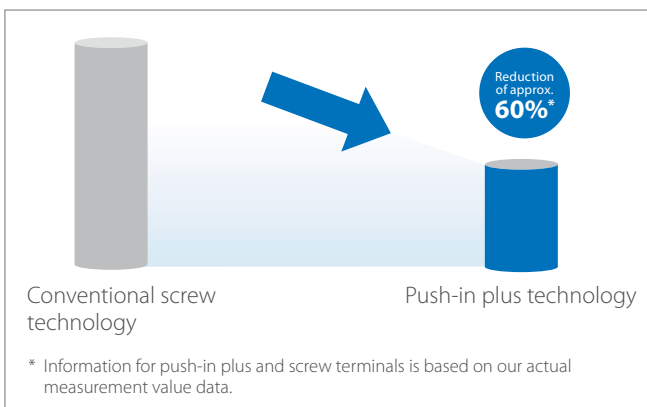
A Slim **17.5 mm**

Push-in plus technology for easy wiring

Fast wiring via push-in plus technology

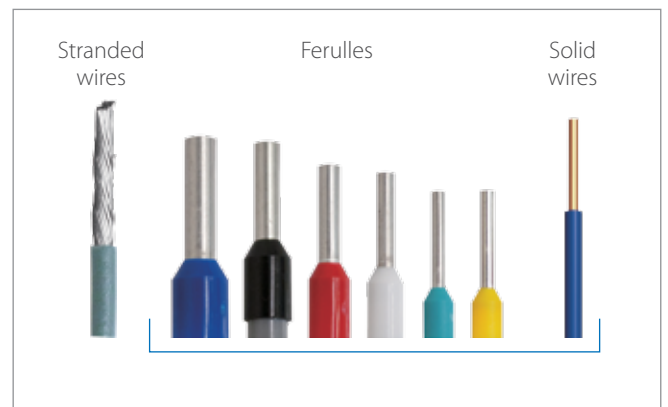
Just insert the wires – no tools required. Do all your wiring in less than half the time needed with screw terminals.

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□



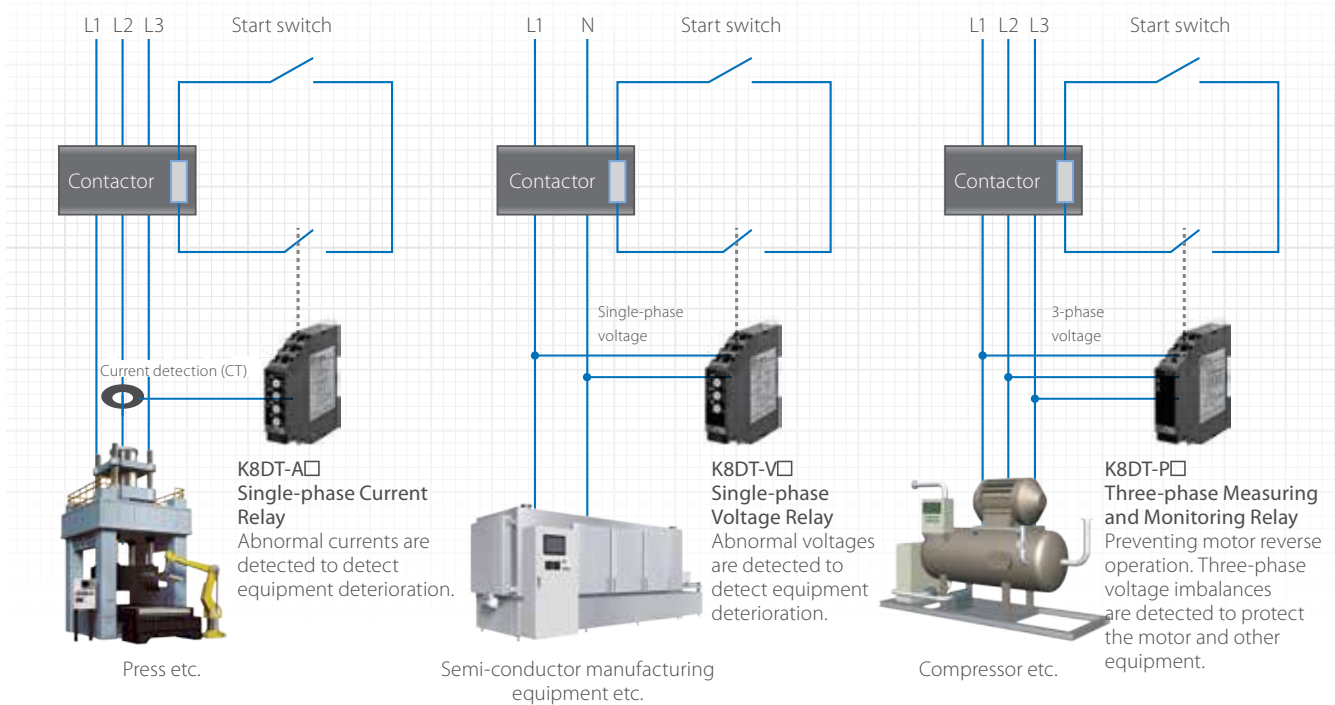
Application

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

Area	Power supply voltage
China	Three-phase, 380 V
India	Three-phase, 400 or 415 V
Thailand	Three-phase, 380 V
USA	Three-phase, 460 or 480 V
Europe	Three-phase, 380, 400, or 415 V

Temperature Monitoring Relays

K8DT-TH



Application

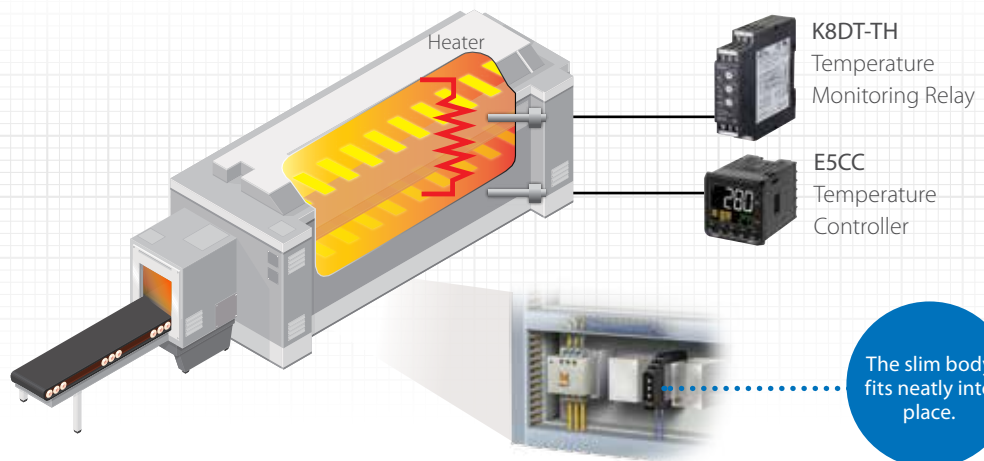
Ideal for redundant prevention of excessive temperature increases in heaters

(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

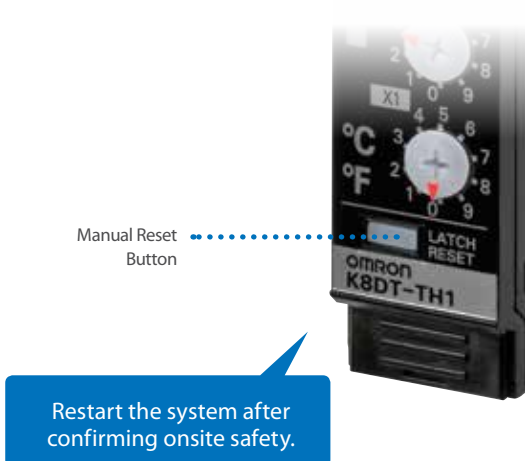
Rotary switch settings in 1°C increments from 0 to 999°C. *For the K8DT-TH1.

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

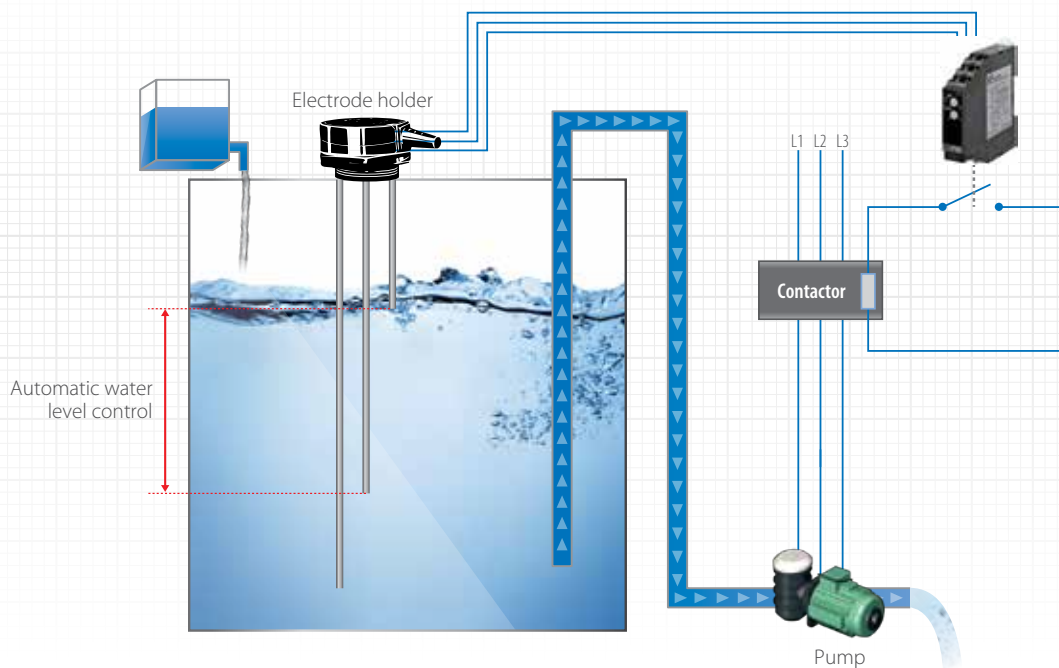
Ideal for liquid level detection and control in tanks (e.g. Infrastructure water level and circulation equipment).

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

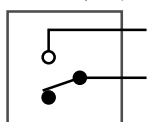
(Example of water discharge control)



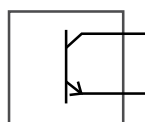
Models with transistor outputs added

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

Models with Relay Outputs



Models with Transistor Outputs



On-delay timer

Prevent contact chattering due to waves on the water surface.



Operating sensitivity knob (10 k 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

● : Model available.































































Model	Terminal block	Output	Motor protection								Temperature monitoring	Water level control	
			Single-phase				Three-phase						
			Current monitoring		Voltage monitoring		Phase sequence/phase loss	Voltage asymmetry monitoring	Voltage monitoring	Composite monitoring			Thermistor monitoring
			Overcurrent or undercurrent monitoring	Overcurrent and undercurrent monitoring	Overvoltage or undervoltage monitoring	Overvoltage and undervoltage monitoring							
K8AK	Screws	Relay output	●	●	●	●	●	●	●	●	●	●	
K8DS			—	—	—	—	●	●	●	●	—	—	
K8DT	Push-In Plus	Relay output	●	●	●	●	●	●	●	●	—	●	
		Transistor output	●	●	●	●	●	●	●	●	—	●	



Certified for global Safety standards for easy equipment exporting.

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

Selection Guide

		Input	Alarm operation	Function	Width	Terminal block	Output	Model
Motor protection	Single-phase	Current	Upper or lower limit (switched)	 or 	22.5 mm	Screws	One SPDT relay output	K8AK-AS
					17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-AS 
		Voltage	Upper and lower limits (redundant operation)	 	22.5 mm	Screws	Two SPDT relay outputs	K8AK-AW
					17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-AW 
		Voltage	Upper or lower limit (switched)	 or 	22.5 mm	Screws	One SPDT relay output	K8AK-VS
					17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-VS 
	Voltage	Upper and lower limits (redundant operation)	 	22.5 mm	Screws	Two SPDT relay outputs	K8AK-VW	
				17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-VW 	
	Three-phase	Voltage	Fixed	 	22.5 mm	Screws	One DPDT relay output	K8AK-PH
					17.5 mm	Screws	One SPDT relay output	K8DS-PH
			Fixed	 	17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-PH 
			Upper and lower limits	   	22.5 mm	Screws	Two SPDT relay outputs	K8AK-PM
			Upper and lower limits	   	17.5 mm	Screws	One SPDT relay output	K8DS-PM
			Upper and lower limits	   	17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-PM 
			Upper limit	  	22.5 mm	Screws	One SPDT relay output	K8AK-PA
			Upper limit	  	17.5 mm	Screws	One SPDT relay output	K8DS-PA
			Upper and lower limits	 	22.5 mm	Screws	Two SPDT relay outputs	K8AK-PW
			Lower limit alarm	  	17.5 mm	Screws	One SPDT relay output	K8DS-PU
			Upper and lower limits	    	17.5 mm	Screws	One SPDT relay output	K8DS-PZ
			Upper and lower limits	    	17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-PZ 
Fixed			  	22.5 mm	Screws	One SPDT relay output	K8AK-PT	
Fixed			  	22.5 mm	Screws	One SPDT relay output	K8AK-TS	
Temperature monitoring	Thermocouple or platinum resistance thermometer	Upper or lower limit (switched)		22.5 mm	Screws	One SPDT relay output	K8AK-TH	
17.5 mm				Push-In Plus	One SPDT relay output or one transistor output	K8DT-TH 		
Water level control	Electrode	Water supply or discharge (switched)		22.5 mm	Screws	One SPDT relay output	K8AK-LS	
				17.5 mm	Push-In Plus	One SPDT relay output or one transistor output	K8DT-LS 	

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