RESISTANCE TEMPERATURE TRANSDUCER

RHTP2 - ☐ ☐ ☐ ☐ ☐

■ Use

By inputting resistance value of a 3-wire thermal resistance based on the JIS, this device insulates and converts the resistance value into a DC signal proportional to temperature.
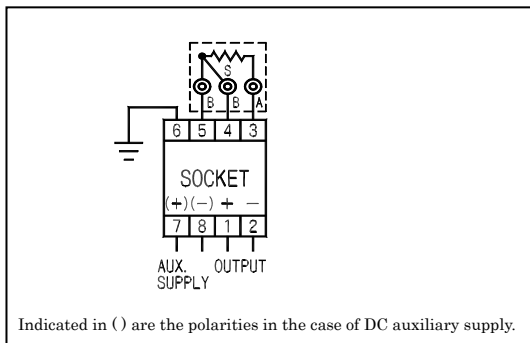
■ Features

1. Constant voltage/current output.
2. Withstand voltage between input, output, auxiliary supply and outer case (earth) is AC2, 000V (50/60Hz), complete insulation for 1 minute.
3. Impulse withstands voltage 5kV, 1.2/50µs (between electric circuit and earth), and positive/negative polarity 3 times each is guaranteed.
4. With output line surge protection. (2, 000A, 8/20µs, positive/negative polarity)，can transmit an output directly to a distant place.

RHTP2-1A7A1
$(80\times50\times121\text{mm}/450\text{g})$

■ Connection diagram

Indicated in ( ) are the polarities in the case of DC auxiliary supply.

■ Specification

Kind of thermal resistance	Temperature span (specified current)	Input *		Output (load resistance)	Auxiliary supply	Common specification
1 : Pt, 100Ω at 0℃	≧50℃ (2mA)	A1 : 0-50℃	C5 : -20-100℃	1 : DC0-100mV (≧200Ω)	1 : AC100V±10%, 50/60Hz	Tolerance: ±0.5% Response time:
2 : Pt, 50Ω at 0℃	≧100℃ (2mA)	A2 : 0-60℃	C6 : -20-120℃	2 : DC0-1V (≧200Ω)	2 : AC110V±10%, 50/60Hz	≦1sec./99%
3 : other than those above		A3 : 0-80℃	D1 : -30-50℃	3 : DC0-5V (≧1kΩ)	3 : AC200V±10%, 50/60Hz	Consumption VA: AC power source:3VA
		A4 : 0-100℃	D2 : -30-60℃	4 : DC 0-10V (≧2kΩ)		DC power source:4W
Ni is manufacturable. Cu is not manufacturable.		A5 : 0-120℃	D3 : -30-80℃	5 : DC1-5V (≧1kΩ)	4 : AC220V±10%, 50/60Hz	Weight:
		A6 : 0-150℃	E1 : -50-50℃	A : DC0-1mA (≦10kΩ)		AC power source:450g
		A7 : 0-200℃	E2 : -50-60℃	B : DC0-5mA (≦2kΩ)	5 : DC24V±10%	DC power source:300g
		A8 : 0-300℃	E3 : -50-80℃	C : DC0-10mA (≦1kΩ)	6 : DC48V±10%	
		B1 : -10-40℃	E4 : -50-100℃	D : DC0-16mA (≦600Ω)	0 : other than those above	
		B2 : -10-50℃	E5 : -50-120℃	E : DC1-5mA (≦3kΩ)		
		B3 : -10-60℃	E6 : -50-150℃	F : DC4-20mA (≦750Ω)		
		C1 : -20-40℃	F1 : -70-30℃	0 : other than those above		
		C2 : -20-50℃	F2 : -70-80℃			
		C3 : -20-60℃	G1 : -100-100℃			
		C4 : -20-80℃	00 : other than those above			

*Operating temperature range of thermal resistance is -200+650℃.

●Open of current output: even if the current output terminal is used in a state of regular open, there is no problem. Also, a voltage of approx. 25V occurs on the output terminal.

●**Built-in linearizer**

　Resistance value of a thermal resistance is not proportional to temperature. It is converted into an output proportional to temperature by a linearizer.

●**Built-in burnout**

　Detects disconnection of a thermal resistance and does scale-out of output to positive (+) side.

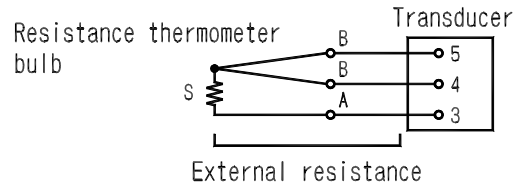　Scale-out to negative side is also manufacturable if specified.

●**Specified current**

　Specified current is a current flowing into a thermal resistance. Change of resistance value can be measured by voltage drop caused by the specified current.

　Standard specified current is 2mA.

■　Purchase specifications

●Item to specify　　　　　Type

RHTP2　-　1　A　7　A　1

Kind of thermal resistance　　　Input　Output　Auxiliary supply

●**Compensating wire**

　A compensating wire compensates for the temperature difference between thermocouple terminals and transducer terminals. Because color (material) of compensating wire varies according to thermocouple type, choose a compensating wire compatible with thermocouple. Match positive/negative polarities when connecting.

Resistance thermometer bulb

Transducer

External resistance

Thermal resistance	External resistance	
	Input span ≧100℃	50℃≦Input span < 100℃
Pt 100Ω	≦10Ω/line	≦5Ω/line
Pt 50Ω	≦5Ω/line	≦2.5Ω/line