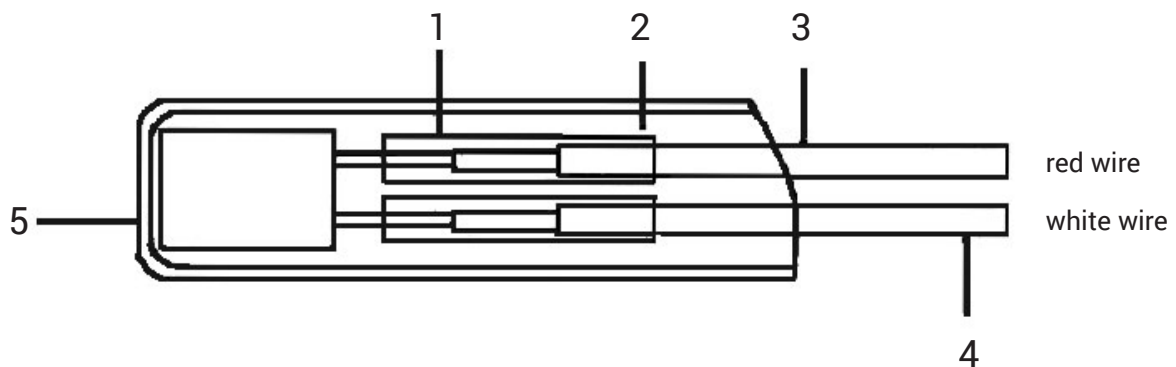


# TEMPERATURE SENSORS

## PT100/PT1000 SERIES



1. High temperature insulation materials
2. High temperature insulated tube
3. Red conductor material (300mm  $\pm$  20mm)
4. White conductor material (300mm  $\pm$  20mm)
5. Stainless steel pipe

### BASIC INFORMATION

The PT100/PT1000 sensor is used for precise temperature monitoring applications, where errors in measurement have to be excluded. The linear relationship of the resistor to temperature, simplifies its use in many electronic applications. The precision of the PT100/PT1000 allows its universal use for temperature monitoring, control and switching in windings, bearings, machines, motors, transformers and many other industrial applications.

### GENERAL FUNCTION

The PT100/PT1000 sensor is a temperature dependent component. The resistance of the PT100/PT1000 sensor rises linearly with the temperature.

### KEY BENEFITS

- Very precise measuring: measuring temperature  $\pm 0.5^{\circ}\text{C}$
- Precise linear temperature – resistance characteristic
- Low weight
- Short response time

## TECHNICAL DATA

- Nominal resistance: 100Ω at 0°C (PT100), 1000Ω at 0°C (PT1000)
- Basic thermistor values: for platinum measuring resistors as in chart
- Measuring range: -40°C to 200°C, other ranges on request
- Measuring current: max. 1mA (no self-heating!)
- Circuit: 2-wire, 3-wire or customized

## INSTALLATION GUIDE

Embed the sensor to motor winding, compressing and banding together with the coil, then varnish it. Wire leads is elicited along the shell and fixed in the writing inside the junction box. Use special Temperature controller for PT100/PT1000.

## CERTIFICATIONS

Temperature °C		-100	0	100	200	250	300
Resistance Ω		60.25	100	138.51	175.86	194.10	212.05
Level A	°C	±0.35	±0.15	±0.35	±0.55	±0.695	±0.75
	Ω	±0.14	±0.06	±0.14	±0.20	±0.23	±0.27
Level B	°C	±0.8	±0.3	±0.8	±1.3	±1.58	±1.8
	Ω	±0.32	±0.12	±0.30	±0.48	±0.55	±0.64

## PT100/ PT1000 REFERENCE TABLE

Temperature °C	0	10	20	30	40	50	60	70	80	90
Resistance Ω	100.0	103.90	107.79	111.67	115.54	119.40	123.24	127.08	130.90	137.71
Temperature °C	110	120	130	140	150	160	170	180	190	200
Resistance Ω	142.29	146.07	149.83	153.58	157.33	161.05	164.77	168.48	172.16	175.86

## TECHNICAL DATA OF PLATINUM SENSOR

Model	Temperature range	Graduation Number	Tolerance	Probe material	Size	Thermal response time 0.5s
CZ PT100-3x16/A ceram	-40~200°C	PT100	Level A	ceramic	Φ3 × 16	<1
CZ PT100-3x16/B ceram	-40~200°C	PT100	Level B	ceramic	Φ3 × 16	<1
CZ PT1000-3x16/A ceram	-40~200°C	PT1000	Level A	ceramic	Φ3 × 16	<1
CZ PT1000-3x16/B ceram	-40~200°C	PT1000	Level B	ceramic	Φ3 × 16	<1
CZ PT100-3x16/A	-40~200°C	PT100	Level A	metal case	Φ3 × 16	<2
CZ PT100-3x16/B	-40~200°C	PT100	Level B	metal case	Φ3 × 16	<2
CZ PT1000-3x16/A	-40~200°C	PT1000	Level A	metal case	Φ3 × 16	<2
CZ PT1000-3x16/B	-40~200°C	PT1000	Level B	metal case	Φ3 × 16	<2
CZ PT100-4x32/A ceram	-40~200°C	PT100	Level A	ceramic	Φ4 × 32	<2
CZ PT100-4x32/B ceram	-40~200°C	PT100	Level B	ceramic	Φ4 × 32	<2
CZ PT1000-4x32/A ceram	-40~200°C	PT1000	Level A	ceramic	Φ4 × 32	<2
CZ PT1000-4x32/B ceram	-40~200°C	PT1000	Level B	ceramic	Φ4 × 32	<2
CZ PT100-4x32/A	-40~200°C	PT100	Level A	metal case	Φ4 × 32	<3
CZ PT100-4x32/B	-40~200°C	PT100	Level B	metal case	Φ4 × 32	<3
CZ PT1000-4x32/A	-40~200°C	PT1000	Level A	metal case	Φ4 × 32	<3
CZ PT1000-4x32/B	-40~200°C	PT1000	Level B	metal case	Φ4 × 32	<3