

Temperature Sensor Pt 100

date: 05/2008

HIGHLIGHTS

- Robust, rust-proof enclosure
- High resolution and long-term stability
- Result not affected by the cable length
- Automatic data acquisition possible



Pt 100 sensor with cable

Field of Application

Temperature measurements are required wherever other parameters such as strains and voltages are subject to temperature changes in the surrounding material. The correlation of these measured values with temperature is often a precondition for proper interpretation of the results.

Temperature measurements are, however, also required independently of other measured variables, for observation of the concrete setting, for instance, or the measurement of water temperatures.

Principle of Operation and Data acquisition

The PT 100 sensor is a temperature transducer based on the resistance change of platinum with temperature. High accuracy and long-term stability are its main advantages. The actual sensor is enclosed in a rust-free casing. The values are transmitted to a readout unit or to our DAMOS data acquisition system via a 4-conductor measurement.

For special applications, such as measurements in strong electromagnetic fields or with very long cable lengths, an optional 4 – 20 mA encapsulated converter is included about 0.5 m from the sensor element. This standard 4 – 20 mA signal can be transmitted without interference for hundreds of metres.

Temperature Sensor Pt 100

Technical specifications

Diameter	approx. 20 mm
Length	approx. 130 mm
Material	brass nickel plated or optional stainless steel
Sensor	Pt 100 class 1/3 B +/- (0,1°C + 0.005 xT) or optional class A +/- (0,15°C + 0,002 xT)
Out-put	4 wire technology or optional 4 to 20 mA 2 wire technology
Resolution	theoretically infinite, depends on readout unit
Operating temperature 4 wire technology	- 40 to + 85°C, optional with high temperature cabel up to 180°C
Operating temperature 4 to 20 mA technology	- 20 to + 80°C
Operating voltage 4 to 20 mA technology	10 to 30 VDC
Protection	withstands continuous 3 bar water pressure
Customer specific cable length up to 300 m for 4 to 20 mA technology.	

The following other data sheets are associated with this data sheet:

Software: *KRONOS Tunnel Informations System*