TEMPERATURE SENSOR
Type PT 100

User's manual

Application

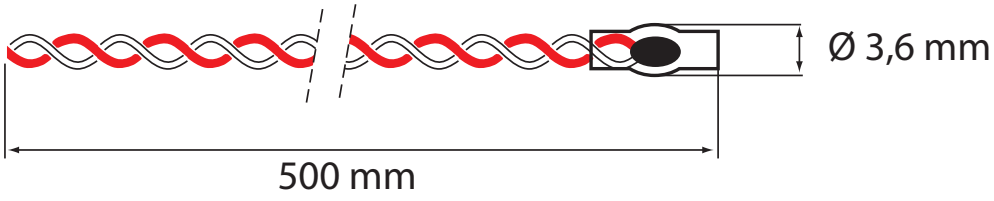
Very exact measuring: measuring temperature ±0,5°C
Very good linearity of the
temperature-resistance-characteristic curve
Thin-film technology
Value of resistance according to DIN 60751
Large temperature range
Small dimensions
Vibration-firm
Quick and reliable response time
Large temperature range

The PT-100 sensor is a temperature-sensitive component, which's value of resistance increases linear according to the increasing temperature. It's insert for highly exact measuring of temperatures or monitorings in all ranges of application, where it's important to avoid measuring mistakes. The strictly linear dependence of the resistance of the temperature makes the insert of electronical evaluation easier. The accuracy of the probe allows f.ex. the universal use for temperature monitoring with limit circuit in :
- bearings
- machines
- windings of motors and transformers
- systems
- pumps....

Technical data

Nominal resistance :	100 Ω to 0°C
Resistance basic values :	for measuring resistance with basic material platinum acc. DIN IEC 751 classe B
Measuring range :	-100°C to +850°C
Circuit :	standard : 2 wire
Dielectric strength :	2,5 kV
Connecting lead :	AWG 24, Teflon-wire stranded
Standard colour :	red/white
Standard lenght :	500 mm +/-5mm
Insulation class :	H (standard)

Dimensions



Basic values

according to DIN EN 60751

The basic values for the range from 0° to + 850° can be computed after the following equation :

$$Rt = Ro \times (1 + 3.90802 \times 10^{-3} \times t - 0.580195 \times 10^{-6} \times t^2)$$

Valeur fondamentale pour résistance de mesure de platine de -100°C à 0°C :

$$Rt = Ro \times (1 + 3.90802 \times 10^{-3} \times t - 0.580195 \times 10^{-6} \times t^2 - 4.27350 \times 10^{-12}(t-100)t^3)$$

Rt	=	resistance in Ohmic at temperature t (Ω)
Ro	=	nominal resistance at 0°C (Ω)
t	=	temperature in °C

The sensors specified in this data sheet will in principle be delivered to tolerance class B.
At in C° =+/- (0,3 + 0,005 =(t))