

MultiSens, the universal temperature sensor



The problem:

In industrial measurement technology, platinum and nickel thin-film precision resistors are now firmly established and are seen as the real industrial standard. With these conventional temperature sensors, the thermal characteristics is principally determined by the choice of platinum or nickel as the basic material together with known technological parameters. At the end of the manufacturing process, only the absolute value of the resistor at a fixed temperature can be accurately trimmed with a laser. Important parameters such as the temperature coefficient of resistance (TCR) or the coefficients of the higher order are fixed and can no longer be changed.

The solution:

With the MultiSens universal temperature sensor, we have created a product which utilizes the advantages of thin-film sensors such as reliability, accuracy, long-term stability, exchangeability and small size and largely eliminates the disadvantage of dependence on the thermal characteristic of the basic material. The principle of this complex thin-film sensor is based on a multiple number of trimmed resistors with different, well-defined thermal characteristics which are connected in a network. A special computer program calculates the individual nominal values of the individual resistors which are then accurately aligned by laser trimming during the manufacturing process. Thanks to this technology, a very broad band of sensor characteristics can be covered.

The product

specifications:

Nominal resistance:..... 200 – 5000 Ohm
Temperature coefficient (TCR): 50 – 6500 ppm/K
Tolerance:..... typical $\pm 0,3^{\circ}\text{C}$ over the temperature range
special $\pm 0,1^{\circ}\text{C}$ over a temperature range of 100°C
or according to DIN IEC 751/DIN 43760
Temperature range:..... -70°C – $+250^{\circ}\text{C}$
Dimensions:..... 5 x 2,5 x 1,4 mm (LxWxH) or custom's wish
Contacts:..... Silver wire, $\varnothing 0,25$ mm, 15 mm long, SIL (Comatel)

Special types on request.



INNOVATIVE SENSOR TECHNOLOGY

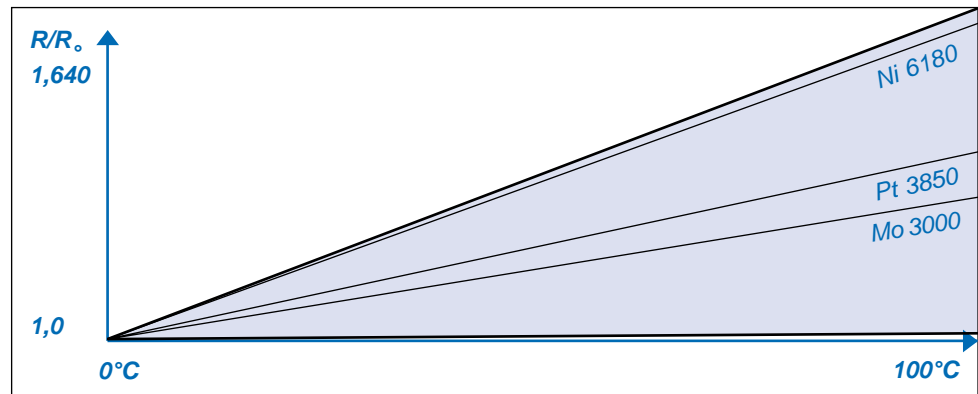


Extract from the list about the simulated standard sensors:

platinum 3850	molybdenum 3850	Balco 4870	copper 4270
platinum 3750	molybdenum 3000	Balco 5180	linear 4280
platinum 3920	nickel 5000	Balco 5270	Stäfa T1
	nickel 6180		Honeywell 2620
	nickel 6371		Honeywell 4334

MultiSens simulate range:

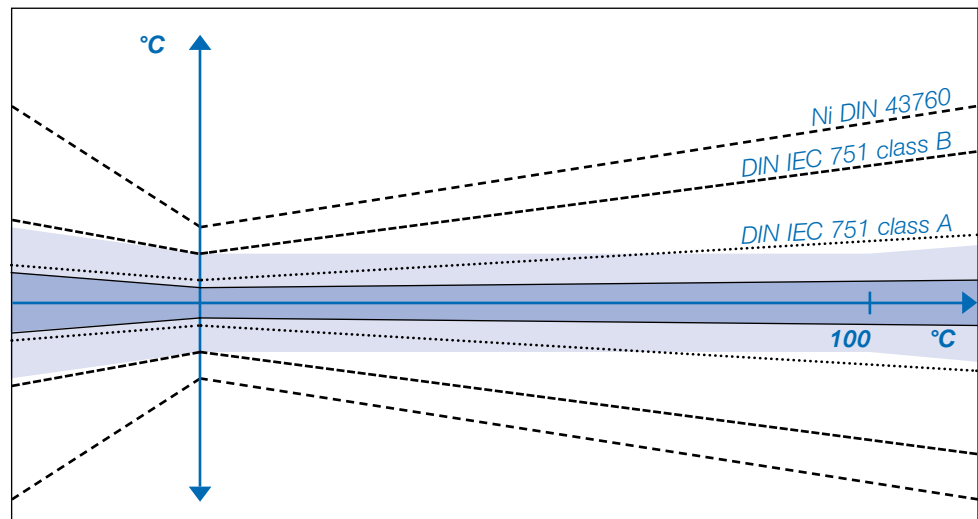
MultiSens range



MultiSens tolerance:

MultiSens class A

MultiSens class B



The advantages:

- customer-specific sensor off the peg
- different sensor characteristics can be easily obtained with a single sensor
- no development costs for specific types of sensor
- smallest dimensions
- very high accuracy
- simple interchangeability
- short delivery dates
- very good price/performance ratio
- no time-consuming pairing/selection necessary for customer

Take a hard look at the MultiSens performance and ask for a computer simulation of your specific temperature sensor. Our experienced sensor specialists will be pleased to advise you.

*Specifications are subject to change without notice.



INNOVATIVE SENSOR TECHNOLOGY

