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PT100 measuring resistor

In many areas of industry, there is a need for precise temperature monitoring of equipment. PT100 platinum sensors are characterized by high accuracy, short response time and long term stability, as well as the possibility of use in a wide temperature range.

The following variations are deliverable from stock:

Order No.	Description	cable (mm)
PT100/6	**2-wire** circuitry in a hexagonal sleeve, length 8mm with M4 thread	2000
PT100/3	**2-wire** circuitry in a metal sleeve (brass) 7x40 mm	1000
PT100/01	**3-wire** circuitry with single litz wires, colour code: red/red-white	1000
PT100/4	**3-wire** circuitry in a hexagonal sleeve, length 8mm with M4 thread	1000
PT100/5	**4-wire** circuitry with single litz wires, colour code: red/red-white/white	1000
	Other designs upon request.	

The resistance of the connecting cable is also evaluated in the monitoring proccess and would result - without appropriate compensation - in more or less large errors. Therefore we can choose between different techniques for compensation:

Types of compensation:

2-wire circuitry: In contrast to the advantage of possibly simpler and less expensive installation of only 2 cables there might be the disadvantage of the necessary manual compensation which is required for longer lines. Resistance changes due to temperature fluctuations of the connecting cable are not taken into account.

3-wire circuitry: A third cable is connected to the sensor (sense). The intrinsic resistance of the cable is determined and automatically compensated by the monitoring device. The measuring result is more accurat. It is assumed that the self-resistance of all connecting cables are identical. The compensation is automatic. Resistance changes due to temperature fluctuations of the connecting cable are also compensated.

4-wire circuitry: With the 4-wire connection, a measuring current flows through the sensor via 2 cables. The voltage drop is measured directly at the sensor via 2 additional cables. This completely compensates the influence even of asymmetrical cable resistances on the measurement. The measurement result is the most accurate. The disadvantage is the higher cost of laying 4 cables.