

L416, Pt Temperature Sensor according to DIN EN 60751

Temperature range -50 °C to +400 °C

- Excellent long term stability and low drift
- High accuracy and interchangeability
- High vibration and shock resistance
- Optimized for soldering connection

L series Pt-RTDs are designed for volume applications where long term stability, interchangeability and accuracy over a large temperature range are vital. Typical applications include Energy Management, HVAC, Food and Beverage, Medical and Industrial equipment. AgPd lead wires assure problem-free connection via soldering and other processes.

| Nominal Resistance R_0 [Ω] | Tolerance Class | Order Number | Packaging |
|---------------------------------------|-----------------|--------------|-----------------|
| Pt100 | F 0.15 (A) | 32207583 | VCI-Plastic bag |
| | F 0.3 (B) | 32207440 | VCI-Plastic bag |

The measuring point for the nominal resistance is 8 mm from the end of the sensor body.

Temperature Range of Tolerance Class

Validity of Class F 0.15 (A)-50 °C to +300 °CValidity of Class F 0.3 (B)-50 °C to +400 °CThe specified tolerance classes refer to continuous operation.

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

| Water ($v = 0.4$ m/s): | t0.5 = 0.07 s |
|-----------------------------|---------------|
| | t0.9 = 0.25 s |
| Air (v = 2 m/s): | t0.5 = 3.2 s |
| | t0.9 = 14 s |

Measuring Current

Pt100 $\Omega{:}$ 0.3 to 1 mA (self-heating has to be considered)



Image for illustration purposes only Color, shape and forming of fixing drop may vary



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Long-Term Stability

The drift of the resistance value at 0 °C after a storage for 1000 hours in air at the declared upper temperature limit is not more than the tolerance value of the declared tolerance class according DIN EN 60751.

Typical drift of R(0 °C) is 0.04 % after 1000 hours at +400 °C.

Self-Heating

0.4 K/mW at 0 °C

Insulation Resistance

> 100 MΩ at +20 °C > 2 MΩ at +400 °C

Vibration Resistance

At least 40 g acceleration at 10 to 2000 Hz, depends on installation

Shock Resistance

At least 100 g acceleration with 8 ms half sine wave, depends on installation

Connection Technology

Soft Soldering Note application temperature of the solder

Lead Type AgPd

Tensile Strength of Leads $\geq 8 \text{ N}$

Packaging

VCI-Plastic bag Alternative packaging forms on request.

Storage Life

At least 12 months (after manufacture), when stored under the recommended conditions. Longer shelf life may be possible, depending upon actual storage conditions, after requalification by customer. Nitrogen atmosphere recommended.

Note

Other tolerances, values of resistance and wire lengths are available on request.

Due to random sample measurements, a bending of connection wires may occur (called V-shape). This bending is batch-dependent and has no influence on the functionality of the platinum measuring resistor.



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