

L 420, Platinum Resistance Temperature Detector according to DIN EN 60751

Temperature range -50 °C to +400 °C

L series PRTDs are designed for large volume applications where long-term stability, interchangeability and accuracy over a large temperature range are vital. Typical applications are Automotive, White goods, HVAC, Energy management, Medical and Industrial equipment.

Nominal Resistance R ₀	Tolerance	Order number
	DIN EN 60751 2009-05	Plastic bag
100 Ohm at 0 °C	F 0.3 (Class B)	32 207 702
500 Ohm at 0 °C	F 0.3 (Class B)	32 207 703
1000 Ohm at 0 °C	F 0.1 (Class 1/3 B)	32 207 587
	F 0.15 (Class A)	32 207 582
	F 0.3 (Class B)	32 207 704

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

Temperature and tolerance range

-50 °C to +400 °C (continuous operation)
 Tolerance class F 0.3 (B): -50 °C to +400 °C
 Tolerance class F 0.15 (A): -50 °C to +300 °C
 Tolerance class F 0.1 (1/3 B): 0 °C to +150 °C

Temperature coefficient

TCR = 3850 ppm/K

Response time

Water current (v= 0.4m/s): t_{0.5} = 0.08 s
 t_{0.9} = 0.25 s
 Air stream (v= 2m/s): t_{0.5} = 3.5 s
 t_{0.9} = 15.0 s

Measuring current

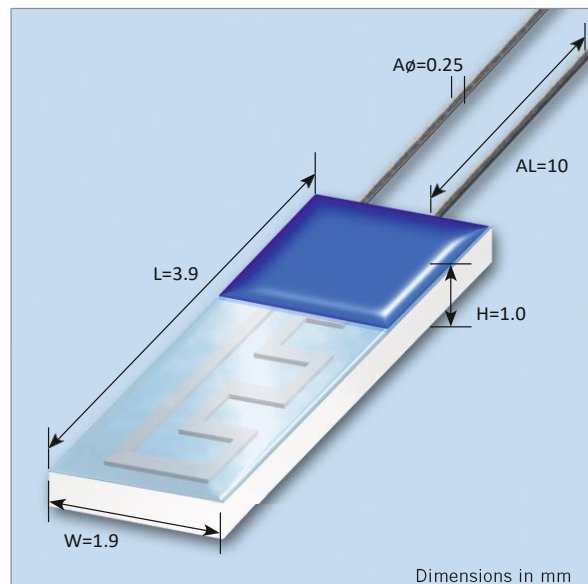
100 Ω: 0.3 to 1.0 mA
 500 Ω: 0.1 to 0.7 mA
 1000 Ω: 0.1 to 0.3 mA
 (self-heating has to be considered)

Long-term stability

R₀-Drift 0.04 % after 1000 hours at 400 °C

Self-heating

0.3 K/mW at 0 °C



Insulation resistance

> 100 MΩ at 20 °C
 > 2 MΩ at 400 °C

Vibration resistance

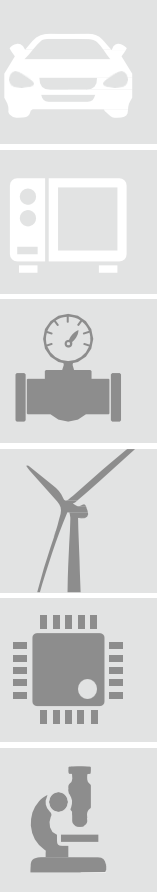
At least 40 g acceleration at 10 to 2000 Hz,
 depends on installation



The information provided in this data sheet regarding the technical characteristics of the product describe the quality of the product, but shall not be qualified or construed as quality guarantees (Beschaffenheitsgarantie) in the meaning of sections 443 and 444 German Civil Code. The information provided in this data sheet regarding measurement values (response time, long-term stability, vibration and shock resistance, insulation resistance and self-heating) are average values that have been obtained under laboratory conditions in tests of large numbers of the product; measurements in productive use may vary significantly depending on the specific conditions of use.

The customer is solely responsible to check whether the product is suited for the intended use; in this respect Heraeus cannot assume any liability. The sale of any products of Heraeus is exclusively subject to the General Terms of Sale and Delivery of Heraeus in their current version, which is available under www.heraeus.com/gtc. This data sheet is subject to changes without prior notice.

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Shock resistance

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

Leads

AgPd-wire

Lead lengths (L)

10 mm ± 1 mm

Connection technology

Suitable for soft soldering
(note application temperature of the solder)

Tensile strength of leads

≥ 8 N

Packaging

VCI-plastic bag

Storage life

Min. 12 month (in original packaging)
nitrogen atmosphere recommended

Note

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

California Proposition 65



WARNING:

This product can expose you to chemicals including lead oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm, and including cobalt oxide, which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.



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