

C 416, Platinum Resistance Temperature Detector according to DIN EN 60751 Temperature range -196 °C to +500 °C

The C series thin-film PRTDs combine the ideal curve characteristics of ceramic wire-wound RTDs with the vibration resistance of glass wire-wound RTDs and represent an excellent alternative to wire-wound RTDs. They are characterized by high long-term stability, excellent temperature shock resistance and a wide temperature range of -196 °C to +500 °C, they show no hysteresis. These features make them best suited for applications in aerospace, chemical and power generation plants and analytical equipment.

Nominal Resistance R ₀	Tolerance	Order Number
	DIN EN 60751 2009-05	Blister reel
100 Ohm at 0 °C	F 0.3 (Class B)	32 208 519

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

Temperature and tolerance range

-196 °C to +500 °C

Tolerance class F 0.3 (B): -196 °C to +500 °C

Temperature coefficient

TCR = 3850 ppm/K

Response time

Water current (v= 0.4m/s): t_{0.5} = 0.07 s
t_{0.9} = 0.25 s

Air stream (v= 2m/s): t_{0.5} = 3.2 s
t_{0.9} = 14.0 s

Measuring current

100 Ω: 0.3 to 1.0 mA
(self-heating has to be considered)

Long-term stability

R₀-Drift 0.03 % after 1000 hours at 500 °C

Self-heating

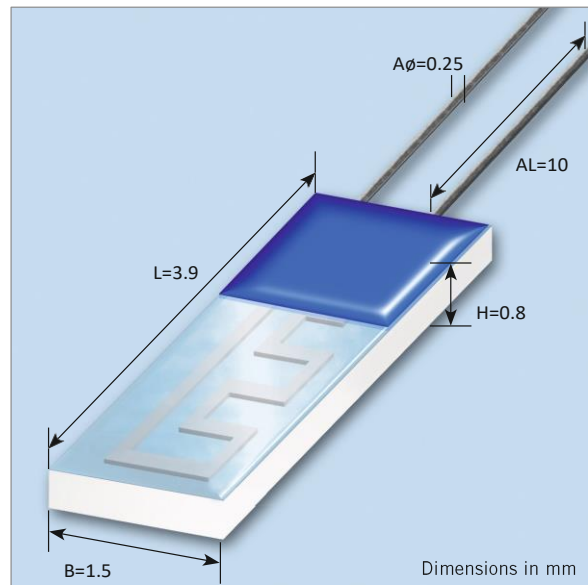
0.4 K/mW at 0 °C

Insulation resistance

> 100 MΩ at 20 °C
> 2 MΩ at 500 °C

Vibration resistance

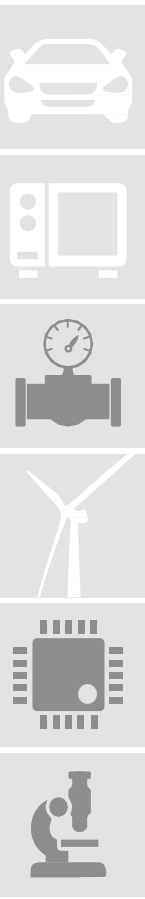
At least 40 g acceleration at 10 to 2000 Hz,
depends on installation



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.

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Shock resistance

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

Leads

AuPd-wire

Lead lengths (L)

10 mm ± 1 mm

Connection technology

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

For brazing and soldering of the leads only brazing/solder alloys should be used which are specified for brazing/soldering to gold alloys

Tensile strength of leads

≥ 5 N

Packaging

Blister reel

Storage life

Min. 12 month (in original packaging)

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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