

M 416, Platinum Resistance Temperature Detector according to DIN EN 60751

Temperature range -70 °C to +500 °C, short-term up to +550 °C

M-series platinum temperature sensors are characterized by long-term stability, excellent precision over a wide temperature range and compatibility. They are used particularly for applications with high consumption volumes, typically in the automotive, white goods, HVAC and energy generation industries as well as in medical and industrial appliances and machinery.

Nominal Resistance R ₀	Tolerance	Order Number	Order Number
	DIN EN 60751 2009-05	Plastic bag	Blister reel
100 Ohm at 0 °C	F 0.1 (Class 1/3 B) F 0.15 (Class A) F 0.3 (Class B)	32 208 217 32 208 216 32 208 213	32 208 701 32 208 279 32 208 278

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

Temperature and tolerance range

-70 °C to +500 °C (continuous operation)
(temporary use to +550 °C possible)
Tolerance class F 0.3 (B): -70 °C to +500 °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

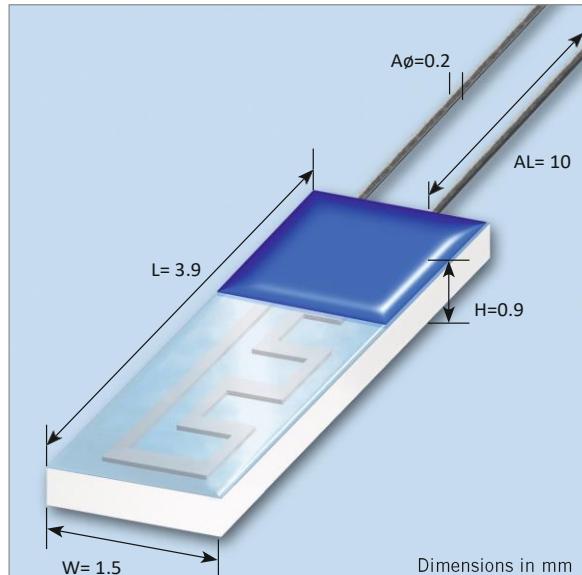
TCR = 3850 ppm/K

Response time

Water current (v= 0.4m/s): t0.5 = 0.06 s
t0.9 = 0.18 s
Air stream (v= 2m/s): t0.5 = 3.1 s
t0.9 = 10.5 s

Measuring current

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



Long-term stability

R₀-Drift 0.04 % after 1000 hours at 500 °C

Self-heating

0.4 K/mW at 0 °C

Insulation resistance

> 100 MΩ at 2 0°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 very 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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Temperature range -70 °C to +500 °C, short-term up to +550 °C

Shock resistance

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

Leads

Pt clad Ni-wire

Lead lengths (L)

10 mm ± 1 mm

Connection technology

Suitable for welding, crimping and brazing

Tensile strength of leads

≥ 9 N

Packaging

Plastic bag or blister reel

Storage life

Min. 12 months (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, nickel and cobalt, which are known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.



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