M416, Pt Temperature Sensor according to DIN EN 60751

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

- Excellent long term stability and low drift
- High accuracy and interchangeability
- High vibration and shock resistance
- Optimized for welding, brazing and crimping
- Ideal choice for your large volume applications

M-series RTDs are the best choice for most applications. They are characterized by long-term stability and excellent precision over a wide temperature range. The M416 combines this advantages with a slim and well controlled size.
Application areas are pyrolytic ovens, HVAC, and process monitoring in Energy & Power generation, chemical and industrial processes.
In principle, the products can also be used in automotive applications, in this case YAGEO Nexensos will check upon the request of the customer, whether additional requirements can be met (e.g. IMDS, PPAP).

Nominal Resistance R_0 [Ω]	Tolerance Class	Order Number	Packaging
Pt100	F 0.1 (1/3 B) F 0.15 (A) F 0.3 (B)	32208217 32208216 / 32208279 32208213 / 32208278	Plastic bag Plastic bag / Blister reel Plastic bag / Blister reel

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 0.1 (1/3 B)	0 °C to +150 °C
Validity of Class F 0.15 (A)	-50 °C to +300 °C
Validity of Class F 0.3 (B)	-70 °C to +500 °C

The specified tolerance classes refer to continuous operation.
Class F 0.3 also applies up to +550 °C for short periods.

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

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

Measuring Current

Pt100 Ω: 0.3 to 1 mA
(self-heating has to be considered)

Dimensions and Tolerances in mm

L: 3.9 +0.2 -0.1
W1: 1.5 ±0.2
H: 0.9 +0.3 -0.2
LL: 10 ±1.0
Lø: 0.2 ±0.02
W2: 0.7 ±0.1

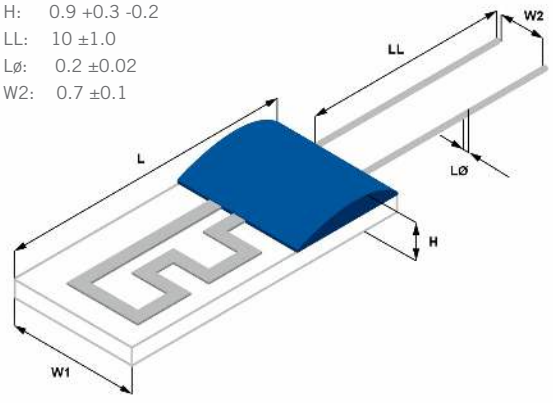

Image for illustration purposes only
Color, shape and forming of fixing drop may vary

M416, Pt Temperature Sensor according to DIN EN 60751

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

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 +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

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

Connection Technology
Welding, Crimping, Brazing

Lead Type
Pt clad Ni-wire

Tensile Strength of Leads
≥ 9N

Packaging
Blister reel, Plastic bag
Alternative packaging forms on request.

Storage Life
Min. 12 months (in original packaging)

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.

California Proposition 65

WARNING

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

RoHS compliant

YAGEO Nexensos GmbH, Reinhard-Heraeus-Ring 23, 63801 Kleinostheim, Germany