

## Platinum temperature sensor in thin-film technology

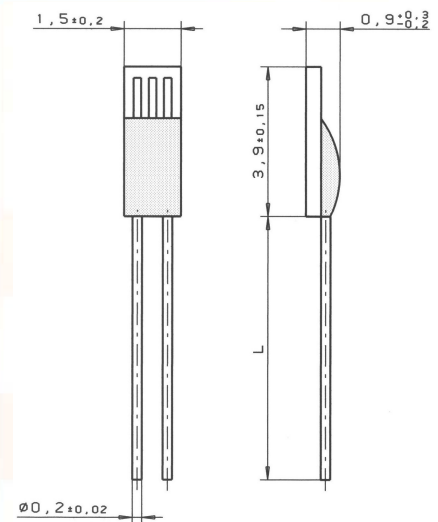
M 416

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 No. Plastic bag	Order No. Blister reel
100 Ohm at 0°C	DIN EN 60751, class B	32 208 213	32 208 278
100 Ohm at 0°C	DIN EN 60751, class A	32 208 216	32 208 279
100 Ohm at 0°C	DIN EN 60751, class 1/3 DIN	32 208 217	32 208 701

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

<b>Specification</b>	DIN EN 60751	
<b>Temperature range</b>	-70°C to +500°C (continuous operation) (temporary use to 550 °C possible) Tolerance class B: - 70 °C to + 500 °C Tolerance class A: - 50 °C to + 300 °C Tolerance class 1/3 DIN: 0 °C to + 150 °C	
<b>Temperature coefficient</b>	TCR = 3850 ppm/K	
<b>Leads</b>	Pt clad Ni wire Recommend connection technology: Welding, Crimping and Brazing	
<b>Lead lengths (L)</b>	10 mm +- 1 mm	
<b>Long-term stability</b>	Max. $R_0$ drift 0.04% after 1000 h at 500°C	
<b>Vibration resistance</b>	At least 40 g acceleration at 10 to 2000 Hz, depends on installation	
<b>Shock resistance</b>	At least 100 g acceleration with 8 ms half sine wave, depends on installation	
<b>Ambient conditions</b>	Use unprotected only in dry environments	
<b>Insulation resistance</b>	> 100 M $\Omega$ at 20°C; > 2 M $\Omega$ at 500°C	
<b>Self heating</b>	0.4 K/mW at 0°C	
<b>Response time</b>	Water current ( $v = 0.4$ m/s):	$t_{0.5} = 0.06$ s $t_{0.9} = 0.18$ s
	Air flow ( $v = 2$ m/s):	$t_{0.5} = 3.1$ s $t_{0.9} = 10.5$ s
<b>Measuring current</b>	100 $\Omega$ : 0.3 to 1.0 mA (self heating has to be considered)	
<b>Note</b>	Other tolerances, values of resistance and wire lengths are available on request.	



We reserve the right to make alterations and technical data printed. All technical data serves as a guideline and does not guarantee particular properties to any products.

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