

## Platinum temperature sensor in thin-film technology

M 310

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 R0	<b>Tolerance</b> DIN EN 60751 1996-07	<b>Tolerance</b> DIN EN 60751 2009-05	Order Number Plastic Box
100 Ohm at 0°C	Class B	F 0.3	32 208 721
1000 Ohm at 0°C	Class B	F 0.3	32 208 723
100 Ohm at 0°C	Class A	F 0,15	32 208 725
1000 Ohm at 0°C	Class A	F 0,15	32 208 727

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

Specification DIN EN 60751

**Temperature range** -70°C to +500°C (continuous operation)

(temporary use to 550°C possible)
Tolerance Class B: -70°C up to +500°C
Tolerance Class A: -50°C up to +300°C

Temperature coefficient TCR = 3850 ppm/K

Leads Pt clad Ni- wire

Recommend connection technology: Welding, Crimping and Brazing

Lead lengths (L) 10mm ±1mm

Long-term stability Max. R<sub>0</sub> drift 0.04% after 1000h at 500°C

Vibration resistance At least 40g acceleration at 10 to 2000 Hz,

depends on installation

Shock resistance At least 100g acceleration with 8 ms half sine

wave, depends on installation

Ambient conditions Use unprotected only in dry environments

**Insulation resistance** > 100 M $\Omega$  at 20°C; > 2 M $\Omega$  at 500°C

Self heating 0.4 K/mW at 0°C

**Response time** Water current (v= 0.4m/s):  $t_{0.5} = 0.04$ s

 $\begin{array}{c} t_{0.9} = 0.12s \\ \text{Air flow (v= 2m/s):} \\ \end{array}$ 

 $t_{0.9} = 8.0s$ 

**Measuring current** 100 $\Omega$ : 0.3 to 1.0 mA

1000Ω: 0.1 to 0.3 mA

(self heating has to be considered)

Note Other tolerances, values of resistance and wire

lengths are available on request.

0,8:0.3 0,8:0.3 80,15\*0.02

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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