

MR 828 and 845, Platinum Temperature Sensor according to DIN EN 60751

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

MR series elements are designed for applications where high temperature stability and shock resistance are vital. Typical industrial applications include analytical and medical equipment, chemical plants and mechanical equipment.

Nominal Resistance R_0	Tolerance	Order Number	Type / Packaging
100 Ohm at 0 °C	F 0.3 (Class B)	32 209 340 32 209 343	1 Pt 100 MR 828 / Slide blister 2 Pt 100 MR 828 / Slide blister
500 Ohm at 0 °C	F 0.3 (Class B)	32 209 347	1 Pt 500 MR 845 / Plastic box
1000 Ohm at 0 °C	F 0.3 (Class B)	32 209 342 32 209 351	1 Pt 1000 MR 828 / Slide blister 2 Pt 1000 MR 845 / Plastic box

The measuring point for the nominal resistance is defined at 2 mm from end of the wire.

Temperature und tolerance range

Continuous operation (temporary use to +550 °C possible)

Temperature coefficient

TCR = 3850 ppm/K

Response time

MR 828:

Water current ($v= 0.4\text{m/s}$):

$t_{0,5} = 0.9 \text{ s}$
 $t_{0,9} = 2.7 \text{ s}$

Air stream ($v= 2\text{m/s}$):

$t_{0,5} = 12.3 \text{ s}$
 $t_{0,9} = 39.5 \text{ s}$

MR 845:

Water current ($v= 0.4\text{m/s}$):

$t_{0,5} = 1.5 \text{ s}$
 $t_{0,9} = 4.6 \text{ s}$

Air stream ($v= 2\text{m/s}$):

$t_{0,5} = 24.8 \text{ s}$
 $t_{0,9} = 78.8 \text{ s}$

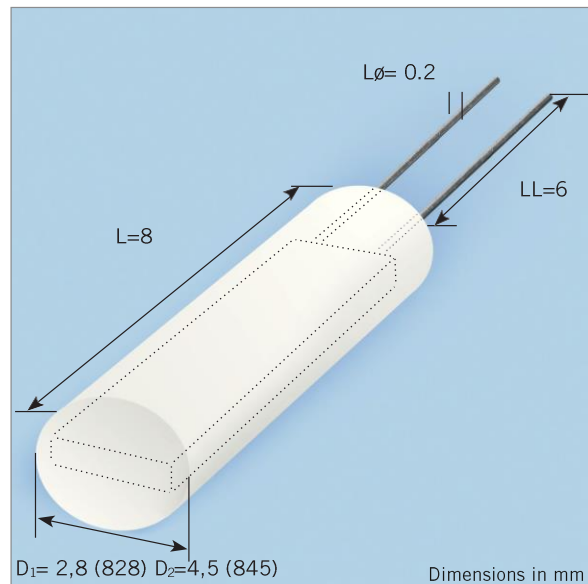
Measuring current

100 Ω : 0.3 to 1.0 mA

500 Ω : 0.1 to 0.7 mA

1000 Ω : 0.1 to 0.3 mA

(self-heating has to be considered)



Long-term stability

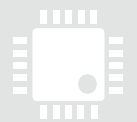
R_0 -Drift 0.1 % after 1000 h at 500 °C



The information provided in this data sheet describes certain technical characteristics of the product, but shall not be qualified or construed as quality guarantee (Beschaffenheitsgarantie) in the meaning of sections 443 and 444 German Civil Code. The information provided in this data sheet regarding measurement values (including, but not limited to, 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. Product results or measurements achieved by customer or any other person in any production, test, or other environment may vary depending on the specific conditions of use. The customer is solely responsible to determine whether the product is suited for the customer's intended use; in this respect Heraeus cannot assume any liability. The sale of any products by Heraeus is exclusively subject to the General Terms of Sale and Delivery of Heraeus in their current version at the time of purchase, which is available under www.heraeus.com/gtc or may be furnished upon request. This data sheet is subject to changes without prior notice.

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Temperature range $-70\text{ }^{\circ}\text{C}$ to $+500\text{ }^{\circ}\text{C}$, short-term up to $+550\text{ }^{\circ}\text{C}$

Self-heating

MR 828 (1 Pt100/1000) 0.05 K/mW at $0\text{ }^{\circ}\text{C}$

MR 828 (2 Pt100) 0.16 K/mW at $0\text{ }^{\circ}\text{C}$

MR 845 (1 Pt500) 0.04 K/mW at $0\text{ }^{\circ}\text{C}$

MR 845 (2 Pt1000) 0.08 K/mW at $0\text{ }^{\circ}\text{C}$

Insulation resistance

$> 100\text{ M}\Omega$ at $20\text{ }^{\circ}\text{C}$

$> 2\text{ M}\Omega$ at $500\text{ }^{\circ}\text{C}$

Vibration resistance

According to DIN EN 60751

Leads

Pt clad Ni- wire

Lead length (LL)

6 mm +2 mm/-1 mm

Connection technology

Suitable for welding, brazing and crimping

Tensile strength of leads

$\geq 9\text{ N}$

Packaging

Alternative packaging forms on request.

Storage life

Min. 12 months (in original packaging)

Note

Other tolerances, values of resistance 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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