

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

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

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 $0\text{ }^{\circ}\text{C}$	F 0.3 (Class B)	32 209 340 32 209 343 32 209 346 32 209 349	1 Pt 100 MR 828 / Slide blister 2 Pt 100 MR 828 / Slide blister 1 Pt 100 MR 845 / Plastic box 2 Pt 100 MR 845 / Plastic box
500 Ohm at $0\text{ }^{\circ}\text{C}$	F 0.3 (Class B)	32 209 341 32 209 347	1 Pt 500 MR 828 / Slide blister 1 Pt 500 MR 845 / Plastic box
1000 Ohm at $0\text{ }^{\circ}\text{C}$	F 0.3 (Class B)	32 209 342 32 209 348 32 209 351	1 Pt 1000 MR 828 / Slide blister 1 Pt 1000 MR 845 / Plastic box 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  $+550\text{ }^{\circ}\text{C}$  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:

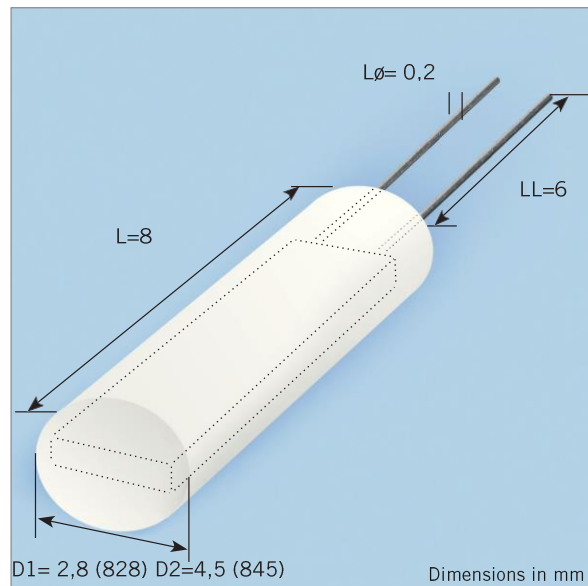
Water current ( $v= 0.4\text{m/s}$ ):  $t_{0,5} = 1.5\text{ s}$   
 $t_{0,9} = 4.6\text{ s}$   
Air stream ( $v= 2\text{m/s}$ ):  $t_{0,5} = 24.8\text{ s}$   
 $t_{0,9} = 78.8\text{ s}$

### Measuring current

100  $\Omega$ : 0.3 bis 1.0 mA  
500  $\Omega$ : 0.1 bis 0.7 mA  
1000  $\Omega$ : 0.1 bis 0.3 mA  
(self-heating has to be considered)

### Long-term stability

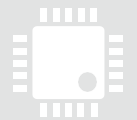
$R_0$ -Drift 0.1 % after 1000 h at  $500\text{ }^{\circ}\text{C}$



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### Self-heating

MR 828 (Pt100/500/1000) 0.05 K/mW at  $0\text{ }^{\circ}\text{C}$

MR 828 (2 Pt100/500) 0.16 K/mW at  $0\text{ }^{\circ}\text{C}$

MR 845 (Pt100/500/1000) 0.04 K/mW at  $0\text{ }^{\circ}\text{C}$

MR 845 (2 Pt100/500) 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](http://www.p65warnings.ca.gov).



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