

## M310, Pt Temperature Sensor according to DIN EN 60751

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

- Automotive grade
- Narrow footprint for small diameter environments
- Excellent long term stability and low drift
- High accuracy and interchangeability
- High vibration and shock resistance
- Optimized for welding, brazing and crimping

M-series Pt-RTDs are characterized by long-term stability and excellent precision over a wide temperature range. The M310 element combines the advantages of the M-Series with a very slim size, supporting small probe geometries and compact assemblies.

YAGEO Nexensos will check upon the request of the customer, whether additional requirements can be met (e.g. IMDS, PPAP).

Nominal Resistance $R_0$ [ $\Omega$ ]	Tolerance Class	Order Number	Packaging
Pt1000	F 0.3 (B)	5185613	Plastic bag

The measuring point for the nominal resistance is 5 mm from the end of the sensor body.

### Temperature Range of Tolerance Class

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):  
 $t_{0.5} = 0.03$  s  
 $t_{0.9} = 0.09$  s

Air ( $v = 3.0$  m/s):  
 $t_{0.5} = 1.5$  s  
 $t_{0.9} = 4.5$  s

### Measuring Current

Pt1000  $\Omega$ : 0.1 to 0.3 mA  
 (self-heating has to be considered)

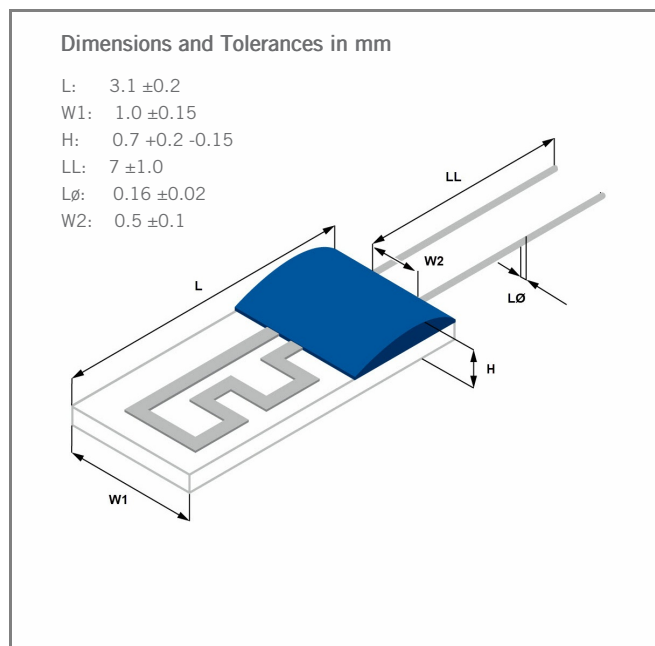


Image for illustration purposes only  
 Color, shape and forming of fixing drop may vary  
 W2 only valid at outlet spot of wire

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### 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

Crimping, Welding, Brazing

### Lead Type

Pt clad Ni-wire

### Tensile Strength of Leads

≥ 6 N

### Packaging

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](http://www.p65warnings.ca.gov)

RoHS  
compliant

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