

## Temperature Sensor NTC M12-H

This sensor is designed to measure fluid temperatures e.g. oil, water or fuel. This signal may be used as a control value for engine control units or as a measurement value which is logged in a data acquisition system.

The NTC sensing element has a negative temperature coefficient. This means, that with increasing temperature the conductivity rises. The sensing element of the temperature sensor is made of semiconducting heavy metal oxide and oxidized mixed crystals, which are equipped with a protective housing.

The main benefit of the sensor is the combination of a high quality production part and a robust compact design.



Application	
Application	-40 ... 150 °C
Storage Temperature Range	-30 ... 60 °C
Bio fuel compatibility	E85/M22
Max. Vibration	300 m/s <sup>2</sup>

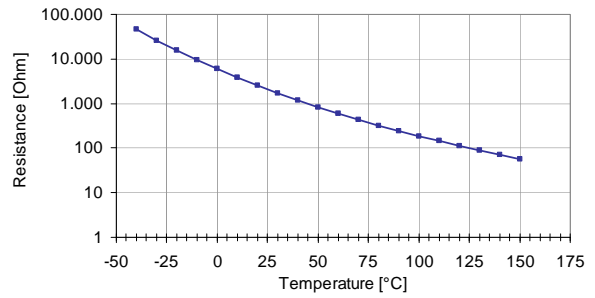
Electrical Data	
Characteristic	NTC
Nominal Resistance ±5 %	2.5 kΩ @ 20 °C

Mechanical Data	
Male Thread	M12x1.5
Wrench Size	19 mm
Installation Torque	18 Nm
Weight w/o Wire	28.3 g
Sealing	Al-washer

Characteristic	
Accuracy @ 25 °C	± 1.4 °C
Accuracy @ 100 °C	± 0.8 °C
Response Time $\tau_{63}$ in still water	< 15 s

**Characteristic Application**

T [°C]	R [Ω]
-40	45,313
-30	26,114
-20	15,462
-10	9,397
0	5,896
10	3,792
20	2,500
30	1,707
40	1,175
50	834
60	596
70	436
80	323
90	243
100	187
110	144
120	113
130	89
140	71
150	57


**Connectors and Wires**

Connector	Bosch Compact
Mating connector	D 261 205 337
Pin 1	Sig+
Pin 2	Sig-

**Application Hint**

The NTC M12-H can be connected directly to most control units using a pull-up resistor (typically 1 or 3 kOhm)

Any mounting orientation is possible.

Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

Free download of the sensor configuration file (\*.sdf) for the Bosch Data Logging System (<http://www.bosch-motorsport.com>).

**Part Number**

NTC M12-H	<b>0 281 002 170</b>
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