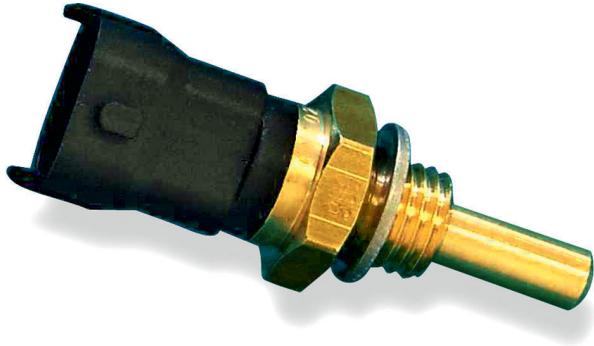


# Temperature Sensor NTC M12-H

www.bosch-motorsport.com



**BOSCH**  
Invented for life



- ▶ Measurement range: -40 to 150°C
- ▶ Robust design

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 to 150°C
Storage temperature range	-30 to 60°C
Bio fuel compatibility	E85/M22
Max. vibration	300 m/s <sup>2</sup>

## Technical Specifications

### Mechanical Data

Male thread	M12x1.5
Wrench size	19 mm
Installation torque	18 Nm
Weight w/o wire	28.3 g
Sealing	Al-washer

### Electrical Data

Characteristic	NTC
Nominal resistance at 20°C	2.5 kOhm ± 6 %

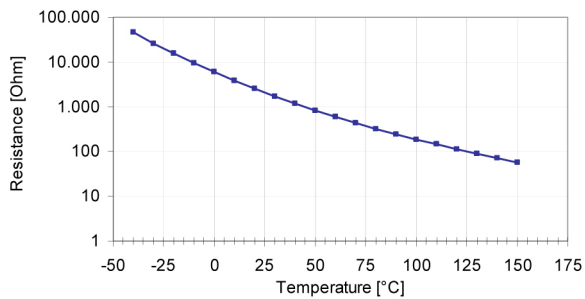
### Characteristic

Accuracy at 25°C	± 1.4°C
Accuracy at 100°C	± 0.8°C
Response time tau 63 in still water	< 15 s

### Characteristic Application

T [°C]	R [Ohm]
-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 2-pole Compact	D 261 205 337-01
Pin 1	SIG+
Pin 2	SIG-

### Installation Notes

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 and free download of the sensor configuration file (\*.sdf) for the Bosch Data Logging System at our homepage.

### Safety Note

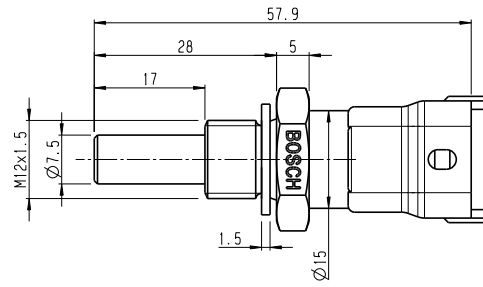
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

### Ordering Information

#### Temperature Sensor NTC M12-H

Order number **0 281 002 170**

Dimensions



Represented by:

**Europe:**  
Bosch Engineering GmbH  
Motorsport  
Robert-Bosch-Allee 1  
74232 Abstatt  
Germany  
Tel.: +49 7062 911 9101  
Fax: +49 7062 911 79104  
motorsport@bosch.com  
www.bosch-motorsport.de

**North America:**  
Bosch Engineering North America  
Motorsport  
38000 Hills Tech Drive  
Farmington Hills, MI 48331-3417  
United States of America  
Tel.: +1 248 876 2977  
Fax: +1 248 876 7373  
motorsport@bosch.com  
www.bosch-motorsport.com

**Latin America:**  
Robert Bosch Ltda  
Motorsport  
Av Juscelino Kubitscheck de  
Oliveira 11800  
Zip code 81460-900  
Curitiba - Parana  
Brasilia  
Tel.: +55 41 3341 2057  
Fax: +55 41 3341 2779

**Asia-Pacific:**  
Bosch Engineering Japan K.K.  
Motorsport  
18F Queen's Tower C, 2-3-5 Minato Mirai  
Nishi-ku, Yokohama-shi  
Kanagawa 220-6218  
Japan  
Tel.: +81 45 650 5610  
Fax: +81 45 650 5611  
www.bosch-motorsport.jp

**Australia, New Zealand and South Africa:**  
Robert Bosch Pty. Ltd  
Motorsport  
1555 Centre Road  
Clayton, Victoria, 3168  
Australia  
Tel.: +61 (3) 9541 3901  
motor.sport@au.bosch.com