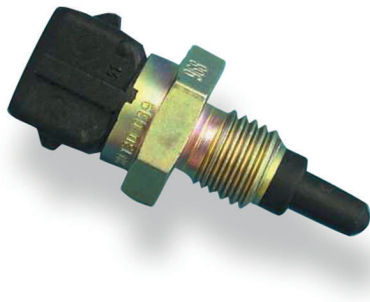


# Temperature Sensor NTC M12-L

www.bosch-motorsport.com



- ▶ Measurement range: -40 to 140°C
- ▶ Air temperature measurement
- ▶ Robust design

This sensor is designed to measure air temperature e.g. in the air box or ambient temperature. The 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 and compact design.

## Application

Application	-40 to 140°C
Storage temp. range	-30 to 60°C
Bio fuel compatibility	E85/M22
Max. vibration	300 m/s <sup>2</sup> at 50 to 250 Hz

## Technical Specifications

### Mechanical Data

Male thread	M12x1.5
Wrench size	19 mm

Installation torque	15 Nm
Weight w/o wire	24.6 g
Sealing	Not included

### Electrical Data

Characteristic	NTC
Nominal resistance ± 5%	2.5 kΩ at 20°C

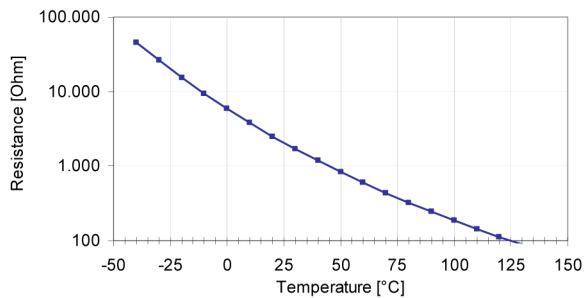
### Characteristic

Accuracy at 25°C	± 1.4°C
Accuracy at 100°C	± 3.4°C
Response Time tau 63 in still water	< 10 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



### Connectors and Wires

Connector	Bosch Compact
Mating connector 2-pole Jetronic	D 261 205 288-01
Pin 1	SIG+
Pin 2	SIG-

### Installation Notes

The NTC M12-L can be connected directly to most control units using a pull-up resistor (typically 1 or 3 k $\Omega$ ).

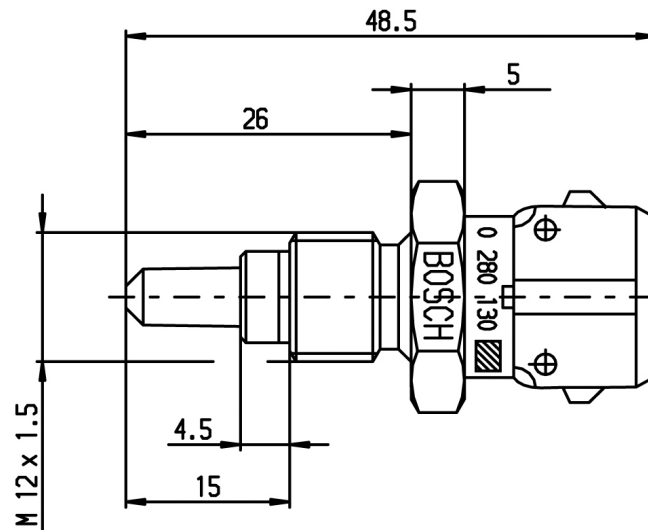
Any mounting orientation is possible.

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.

### Ordering Information

**Temperature Sensor NTC M12-L**  
Order number **0 280 130 039**

Dimensions



Represented by:

**Europe:**  
 Bosch Engineering GmbH  
 Motorsport  
 Robert-Bosch-Allee 1  
 74232 Abstatt  
 Germany  
 Tel.: +49 7062 911 79101  
 Fax: +49 7062 911 79104  
 motorsport@bosch.com  
 www.bosch-motorsport.de

**North and South America:**  
 Bosch Engineering North America  
 Motorsports  
 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

**Asia-Pacific:**  
 Bosch Engineering Japan K.K.  
 Motorsport Department  
 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  
 motorsport@bosch.com

**Australia and New Zealand:**  
 Robert Bosch Pty. Ltd  
 1555 Centre Road  
 Clayton, Victoria, 3168  
 Australia  
 Tel.: +61 (3) 9541 3901  
 Fax: +61 (3) 9541 7225  
 motor.sport@au.bosch.com