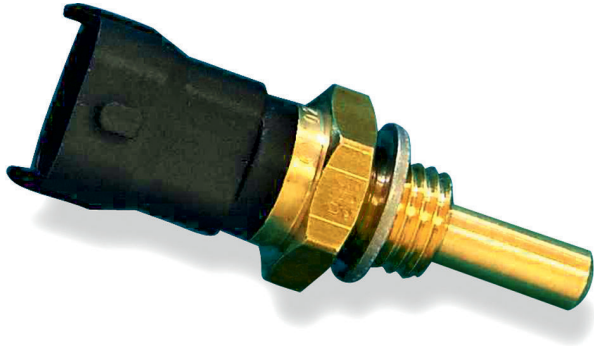


Temperature Sensor NTC M12-H

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 ² |

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 % |

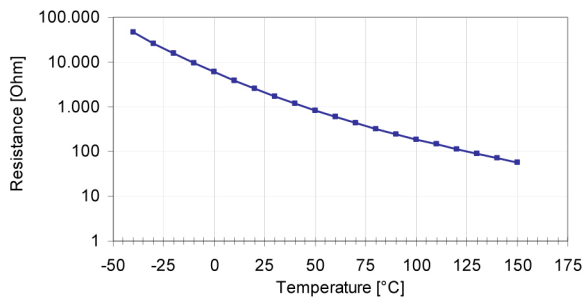
Characteristic

| | |
|-------------------------------------|---------|
| 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 | D 261 205 337-01 |
| 2-pole Compact | |
| 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

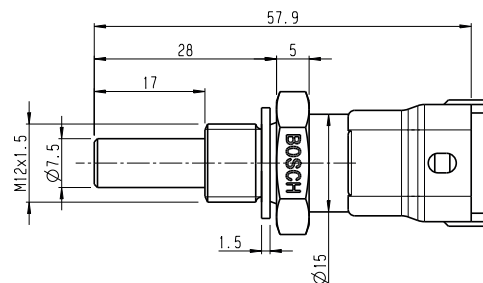
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

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