

Temperature Sensor NTC M5-HS



- ▶ Application: -55 to 300°C
- ▶ Accuracy at 25°C: $\pm 0.3^{\circ}\text{C}$
- ▶ Accuracy at 100°C: $\pm 1.3^{\circ}\text{C}$
- ▶ Male thread: M5
- ▶ Nominal resistance: 10 kOhm $\pm 1\%$ (at 25°C)

This sensor is designed to measure temperatures up to 300°C of oil, water, fuel or air. This signal is 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 and the resistance decreases. To improve a good protection against the ambient temperature, the housing is made of stainless steel and partly filled with an isolation-paste. The main benefit of the sensor is a very compact design and its very short response time.

Application

Application	-55 to 300°C
Storage temperature range	0 to 100°C
Bio fuel compatibility	-

Technical Specifications

Mechanical Data

Male thread	M5
Wrench size	8 mm
Installation torque	8 Nm
Weight w/o wire	6 g
Sealing	O-Ring 4 x 1 mm

Electrical Data

Characteristic	NTC
Nominal resistance at 25°C	10 kOhm $\pm 1\%$

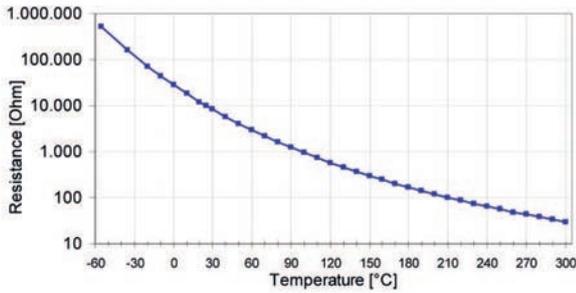
Characteristic

Accuracy at 25°C (homogeneous cond.)	$\pm 0.3^{\circ}\text{C}$
Accuracy at 100°C (homogeneous cond.)	$\pm 1.3^{\circ}\text{C}$
Response time tau 63 in still water	< 4 s

Characteristic Application

T [°C]	R [Ohm]
-55	519,910
-35	158,090
-20	71,668
-10	44,087
0	27,936
10	18,187
20	12,136
25	10,000
30	8,284
40	5,774
50	4,103
60	2,967
70	2,182
80	1,629
90	1,234
100	946.6
120	578.1
140	368.8
160	244.4
180	167.6

200	118.5
220	86.08
240	64.08
260	48.76
280	37.86
300	29.94



Connectors and Wires

Connector	ASL606-05PN-HE
Mating connector	F 02U 000 231-01
	ASL006-05SN-HE
Pin 1	-
Pin 2	Sig-
Pin 3	Sig+
Pin 4	-

Pin 5	-
Various motorsport and automotive connectors are available on request.	
Wire size	AWG 24
Wire length L	15 to 50 cm
Please specify the required wire length with your order.	

Installation Notes

The NTC M5-HS can be connected directly to most control units using a pull-up resistance (typically 1 or 3 kOhm) .

Any mounting orientation is possible.

Please find further application hints in the offer drawing at our homepage.

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

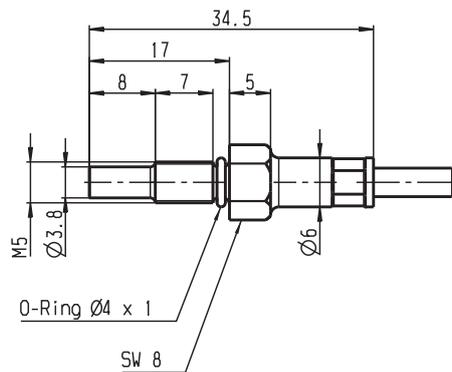
Safety Note

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 M5-HS
 Order number **F 02U V00 510-01**

Dimensions



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