

# Pressure Sensor Combined PST-F 2 350 bar



- ▶ Pressure: 0 to 350 bar
- ▶ Temperature: -40 to 140°C
- ▶ Power supply: 5 V
- ▶ Weight: 36 g

This sensor is designed to measure absolute gasoline pressure and gasoline temperature in direct injection systems

The pressure measurement is based on the expansion of a steel diaphragm, where strain gauges are placed to a Wheatstone bridge. The measured signal is proportional to the pressure and is processed in an application specific integrated circuit.

The temperature measurement is conducted by an NTC thermistor. The main feature of this sensor is its compact design and the integration of two functions (temperature and pressure measurements) in a common housing.

## Application

|                       |  |
|-----------------------|--|
| Application 1         | 0 to 350 bar   |
| Reference             | Absolute   |
| Max. pressure         | 390 bar  |
| Application 2         | -40 to 140°C   |
| Resistance at 25°C    | 2 kOhm   |
| Operating temp. range | -40 to 140°C   |
| Media temp. range     | -40 to 140°C   |
| Storage temp. range   | -40 to 60°C  |
| Biofuel compatibility | E26, E85   |
| Max. vibration        | 210 m/s <sup>2</sup> RMS at 147 to 1,350 Hz<br>175 m/s <sup>2</sup> RMS at 1,350 to 2,000 Hz |

## Technical Specifications

### Mechanical Data

|             |       |
|-------------|-------|
| Male thread | M10x1 |
|-------------|-------|

|                     |               |
|---------------------|---------------|
| Weight without wire | 36 g          |
| Wrench size         | 27 mm         |
| Installation torque | 37.5 ± 2.5 Nm |
| Sealing             | Sealed cone   |

### Electrical Data

|                            |                                |
|----------------------------|--------------------------------|
| Power supply $U_s$         | 4.75 to 5.25 V                 |
| Max power supply $U_s$ max | 16 V (18 V for max. 1 h)       |
| Full scale output $U_A$    | 0.5 to 4.5 V $U_s$ ratiometric |
| Current $I_s$              | 12 mA                          |

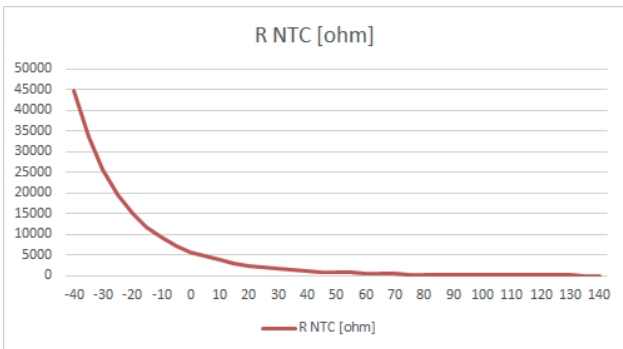
### Characteristic 1

|                            |   |
|----------------------------|---|
| Response time T10/90       | Pressure: 0.2 to 0.8 ms<br>Temperature: 9 s (response time of temperature signal in oil dip bath 20 to 100°C) |
| Compensated range          | -40 to 130°C  |
| Tolerance (FS) at $U_s$    | +/- 1 % at 0 to 100°C<br>+/- 1.5 % at -40 to 0°C and 100 to 130°C   |
| Sensitivity at $U_s = 5$ V | 11.43 mV/bar  |
| Offset                     | 500 mV at $U_s = 5$ V   |

### Characteristic 2

|        |         |
|--------|---------|
| T [°C] | R [Ohm] |
| -40    | 44,864  |
| -30    | 25,524  |
| -20    | 15,067  |
| -10    | 9,195   |
| 0      | 5,784   |
| 10     | 3,740   |

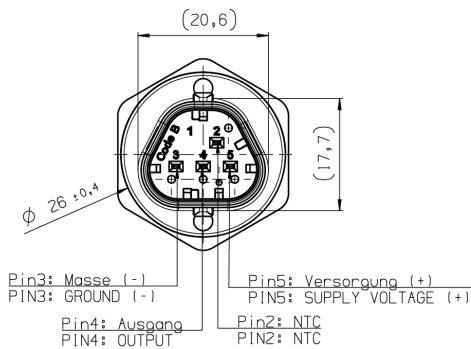
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|-----|-------|
| 20  | 2,480 |
| 25  | 2,038 |
| 30  | 1,683 |
| 40  | 1,167 |
| 50  | 825   |
| 60  | 594   |
| 70  | 434,9 |
| 80  | 323,4 |
| 90  | 244   |
| 100 | 186,6 |
| 110 | 144,5 |
| 120 | 113,3 |
| 130 | 89,8  |
| 140 | 71,9  |



**Connectors and Wires**

|           |                 |
|-----------|-----------------|
| Connector | Bosch Trapezoid |
|-----------|-----------------|

**Dimensions**



|                  |                    |
|------------------|--------------------|
| Mating connector | F02U.B00.751-01    |
| Pin 1            | -                  |
| Pin 2            | Temperature Signal |
| Pin 3            | Ground             |
| Pin 4            | Pressure Signal    |
| Pin 5            | Power Supply       |

Various motorsport and automotive connectors are available on request.

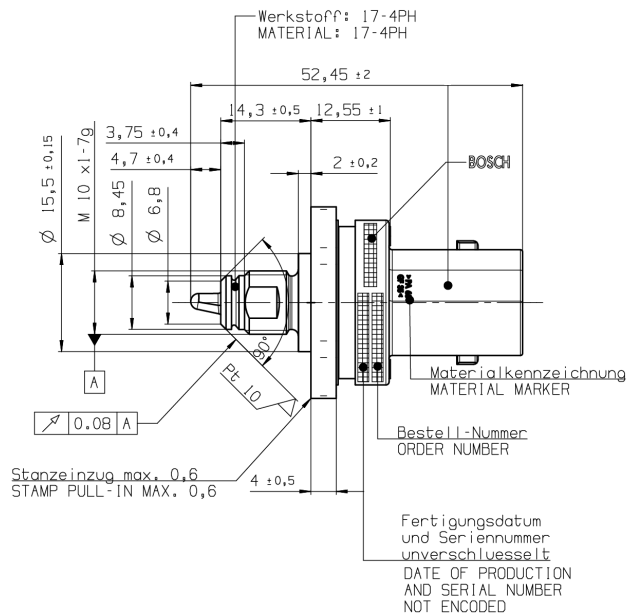
**Installation Notes**

The sensor can be connected directly to most control units.  
 For temperature measurement please use a pull-up resistor with an optimal value of 4.6 kOhm.  
 The sensor has a protection for overvoltage, reverse polarity and short-circuit.  
 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**

**Pressure Sensor Combined PST-F 2 350 bar**  
 Order number **0261.B35.596-01**



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