

# Pressure Sensor Combined PST-F 2 280 bar



- ▶ Absolute pressure and temperature measurement
- ▶ Pressure measurement range  
0 to 280 bar
- ▶ Temperature measurement range  
-40 to 140°C (10 kOhm at 25°C)

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 280 bar
Reference	Absolute
Max. pressure	340 bar
Application 2	-40 to 140°C
Resistance at 25°C	10 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 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

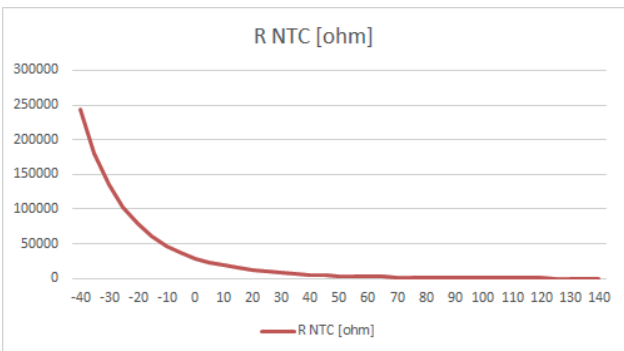
### Characteristic 1

Response time T10/90	Pressure: 0.2 to 0.8 ms 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 +/- 1.5% at -40 to 0°C and 100 to 130°C
Sensitivity at $U_s = 5$ V	14.3 mV/bar
Offset	500 mV at $U_s = 5$ V

### Characteristic 2

T [°C]	R [Ohm]
-40	243,241
-30	135,753
-20	78,716
-10	47,258
0	29,287
10	18,684
20	12,240
25	10,000
30	8,218

40	5,642
50	3,955
60	2,826
70	2,055
80	1,519
90	1,141
100	868.4
110	669.9
120	523.2
130	413.3
140	330.0



**Connectors and Wires**

Connector	Bosch Compact
Mating connector	F 02U B00 596-01

Pin 1	Ground
Pin 2	Pressure Signal
Pin 3	Temperature Signal
Pin 4	Power Supply
Pin 5	-

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.

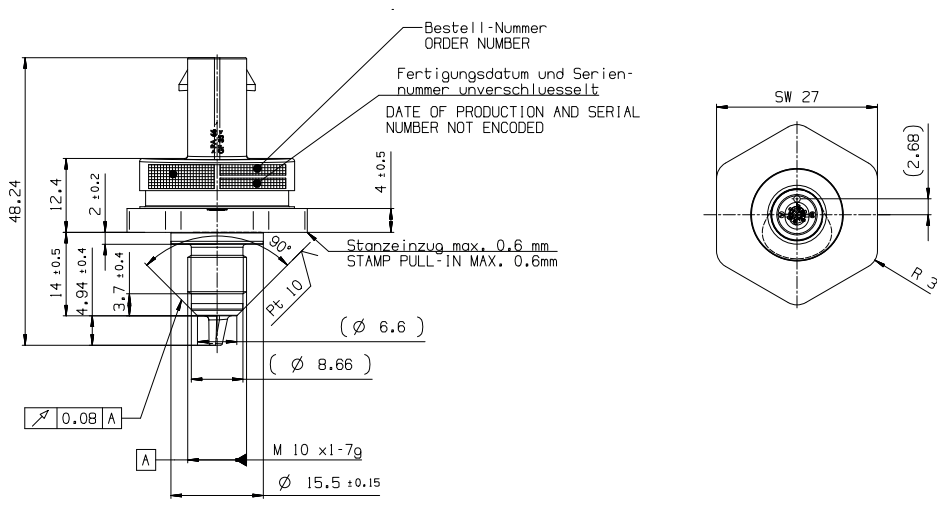
**Safety Note**

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 2 280 bar**  
 Order number **0 261 545 115**

**Dimensions**



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