

Pressure Sensor Combined PST-F 2

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BOSCH
Invented for life



- ▶ Absolute fluid pressure and temperature measurements
- ▶ Pressure measurement range 0 to 280/350 bar
- ▶ Temperature measurement range -40 to 140°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	Please see Variations
Application 2	-40 to 140°C
Reference	Absolute
Max. pressure	Please see Variations
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 ² RMS at 147 to 1,350 Hz 175 m/s ² RMS at 1,350 to 2,000 Hz

Technical Specifications

Variations

	PST-F2 (280 bar)	PST-F2 (350 bar)
Application 1	0 to 280 bar (a)	0 to 350 bar (a)
Max. pressure	340 bar	390 bar
Pin 1	Gnd	-
Pin 2	Sig	NTC
Pin 3	NTC	Gnd
Pin 4	U _s	Sig
Pin 5	-	U _s
Sensitivity at U _s = 5 V	14.3 mV/bar	11.43 mV/bar

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

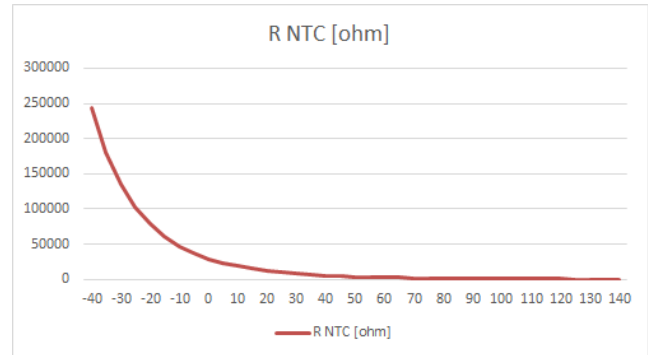
Characteristic 1

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	Please see Variations
Offset	500 mV at $U_s = 5$ V

Characteristic 2a, 10 kOhm

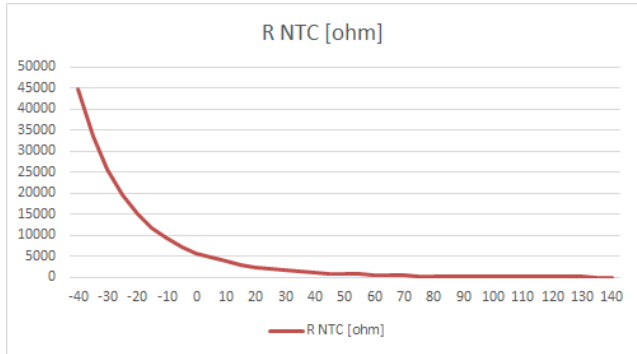
T [°C]	R [Ohm]
-40	243,241
-30	135,753
-20	78,716
-10	47,258
0	29,287
10	18,684
20	12,240
25	10,000
30	8,218
40	5,642
50	3,955
60	2,826
70	2,055
80	1,519
90	1,141
100	868.4
110	669.9
120	523.2

130	413.3
140	330.0



Characteristic 2b, 2 kOhm

T [°C]	R [Ohm]
-40	44,864
-30	25,524
-20	15,067
-10	9,195
0	5,784
10	3,740
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 Compact
Mating connector	F 02U B00 596-01
Pin 1	Please see Variations
Pin 2	Please see Variations
Pin 3	Please see Variations
Pin 4	Please see Variations
Pin 5	Please see Variations

Various motorsport and automotive connectors are available on request.

Installation Notes

The sensor can be connected directly to most control units.

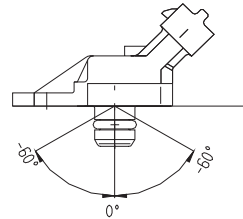
For temperature measurement please use a pull-up resistor with an optimal value of 4.6 kOhm.

Please note that using the adapter F 02U 002 956-01 in connection with the PST-F 2 the ambient conditions could be changed (e.g. medium temperature dissipation or undesired vibrations).

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.

To avoid damage caused by condensate the maximum mounting position from vertical is $\pm 60^\circ$.



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

0 to 280 bar

Order number **0 261 545 115**

Pressure Sensor Combined PST-F 2

0 to 350 bar

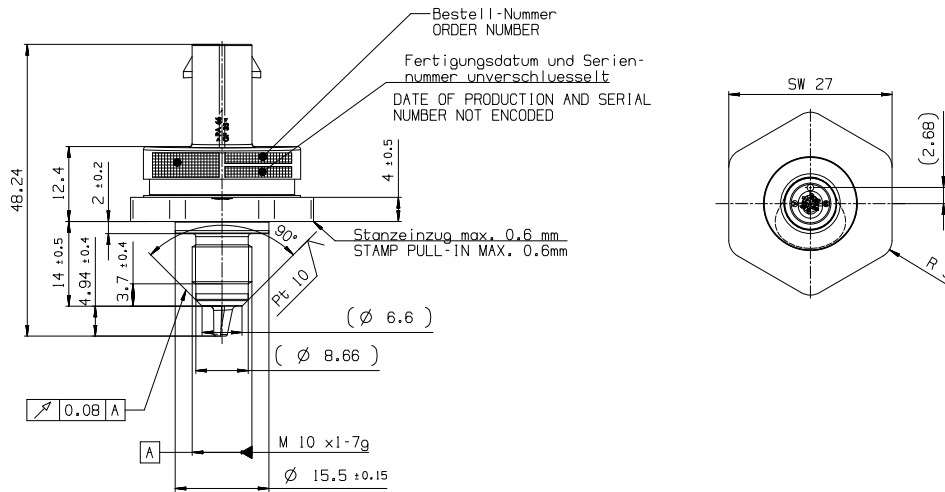
Order number **0 261 B35 596-01**

Accessories

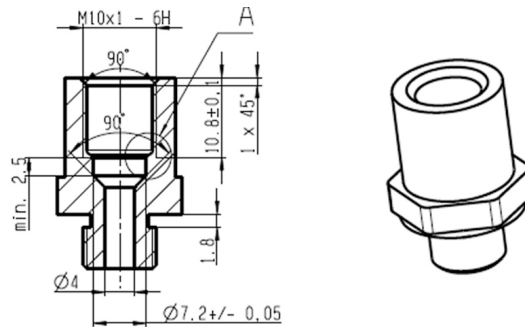
Pressure Sensor Fluid PST-F 2 Adapter

Order number **F02U 002 956-01**

Dimensions



Sensor



Adapter

Represented by:

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