

# Pressure Sensor Combined PST 1/ PST 3



- ▶ Pressure: 0.1 to 1.15 bar or 0.2 to 3 bar
- ▶ Temperature: -40 to 150°C or -40 to 140°C
- ▶ Power supply: 5 V
- ▶ Weight: 24 g

This sensor is designed to measure absolute air pressure, especially the air box pressure of gasoline or Diesel engines plus temperature.

An integrated circuit combines a piezo-resistive sensor element and electronic systems for signal-amplification and temperature-compensation. The output of the sensor is an analog, ratio metric signal. Two different pressure ranges are available (0.1 to 1.15 bar or 0.2 to 3 bar).

## Application

Application 1	0.1 to 1.15 bar or 0.2 to 3 bar (a)
Application 2	-40 to 130°C
Reference	Absolute
Max. pressure	5 bar
Operating temp. range	-40 to 130°C
Media temp. range	-40 to 130°C
Storage temp. range	0 to 40°C
Max. vibration	According to ISO 16750-3

## Technical Specifications

### Variations

	PST 1 (0.1 to 1.15 bar)	PST 3 (0.2 to 3 bar)
Tolerance (FS) at $U_s = 5\text{ V}$	$\pm 0.016\text{ bar}$	$\pm 0.030\text{ bar}$
Tolerance (FS)	$\pm 1.52\%$	$\pm 1.07\%$
Sensitivity	4,048 mV/bar	1,518 mV/bar
Offset	-4.76 mV	96.43 mV

## Mechanical Data

Mounting	M6
Fitting	$12.05 \pm 0.8\text{ mm}$
Weight w/o wire	24 g
Sealing	O-ring 7.59 x 2.62 mm

## Electrical Data

Power supply $U_s$	4.75 to 5.25 V
Max. power supply	16 W
Full scale output $U_A$ at 5 V	0.4 to 4.65 V
Current $I_s$	9 mA

## Characteristic 1

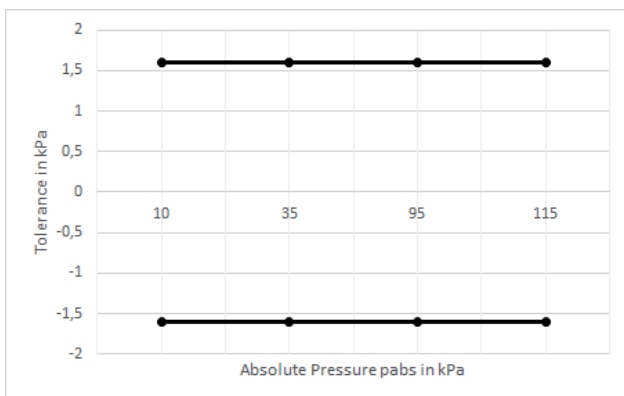
Response time $T_{10/90}$	1 ms
Compensated range	10 to 85°C
Tolerance (FS) at $U_s = 5\text{ V}$	Please see variations
Tolerance (FS)	Please see variations
Sensitivity	Please see variations
Offset	Please see variations

## Characteristic 2

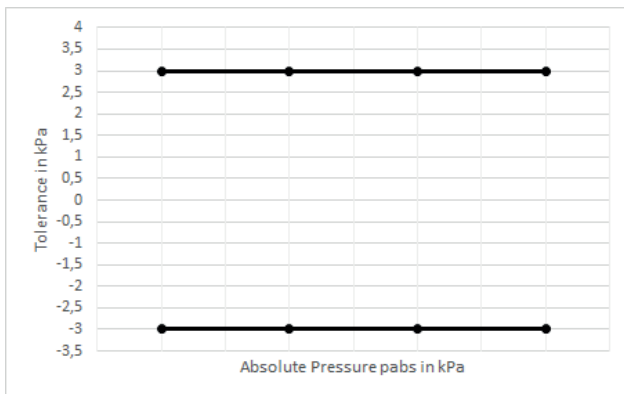
T [°C]	R [Ohm]
-40	45,303
-30	26,108
-20	15,458
-10	9,395
0	5,895
10	3,791
20	2,499
25	2,056

30	1,706
40	1,174
50	833.8
60	595.4
70	435.6
80	322.5
90	243.1
100	186.6
110	144.2
120	112.7
130	89.28

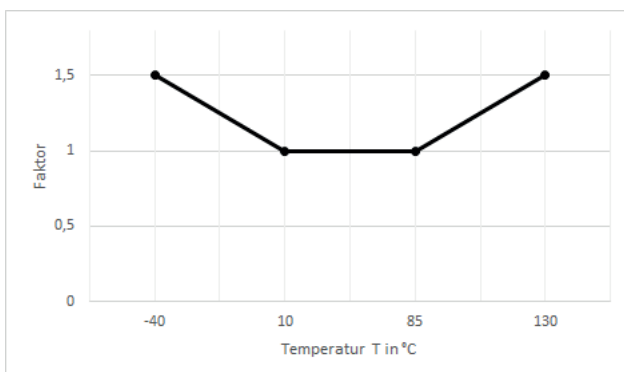
### Tolerance 0.1 to 1.15 bar



### Tolerance 0.2 to 3 bar



### Expansion of Tolerance



### Connectors and Wires

Connector	Bosch Compact
Mating connector	D261.205.360-01
Pin 1	Ground
Pin 2	Temperature Signal
Pin 3	Power Supply
Pin 4	Pressure Signal
Various motorsport and automotive connectors are available on request.	

### Installation Notes

The PST 1/PST 3 is designed for engines using ROZ95, ROZ98, M15, E22 and Diesel.

The sensor can be connected directly to most control units.

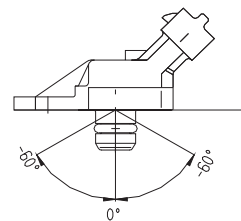
To avoid noise, an ECU-input circuit with a RC-low pass filter ( $\tau = 2 \text{ ms}$ ) is recommended.

Use engine oil (5W40) as O-Ring grease (no silicone based grease).

Avoid miss-pinning (max. 5 minutes at  $I = 0.3 \text{ A}$ ).

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.

### Legal Restrictions

Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

### Ordering Information

#### Pressure Sensor Combined PST 1

0.1 to 1.15 bar

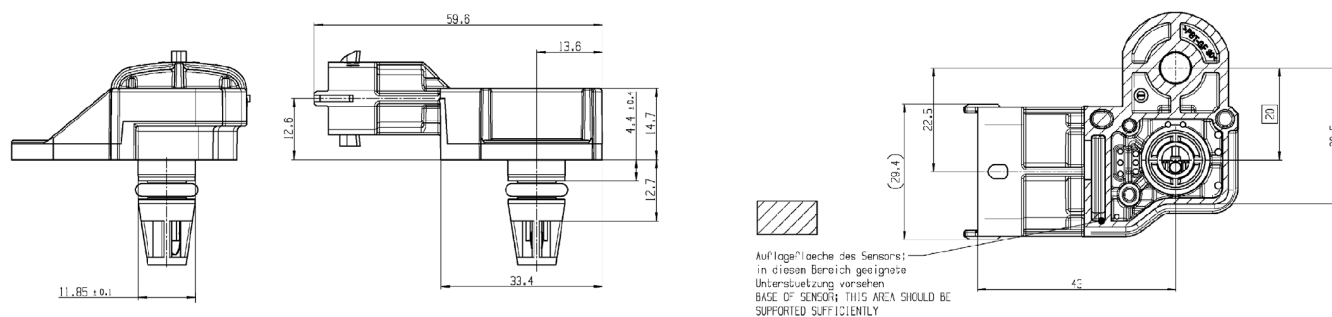
Order number **0261.230.333**

#### Pressure Sensor Combined PST 3

0.2 to 3 bar

Order number **0261.230.280**

## Dimensions



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