

# Pressure Sensor Combined PST-F 1



- ▶ Pressure: 0 to 10 bar
- ▶ Temperature: -40 to 140°C
- ▶ Power supply: 5 V
- ▶ Weight: 36 g

This sensor is designed to measure relative gasoline pressure and gasoline temperature in port injection systems.

The pressure measurement of the sensor is by means of a piezoresistive element which is acted on by a silicon diaphragm in contact with the fluid being measured. The reference (relative) pressure is provided via an opening in the sensor housing and acts on the active upper side of the silicon diaphragm.

## Application

Application 1	0 to 10 bar (a)
Application 2	-40 to 140°C
Reference	Relative
Max. pressure	20 bar
Operating temp. range	-40 to 140°C (140°C)
Media temp. range	-40 to 140°C (140°C)
Storage temp. range	-30 to 80°C
Fuel compatibility	Engine oils, most gasoline and Diesel fuels
Max. vibration	80 m/s <sup>2</sup> at 20 to 260 Hz 60 m/s <sup>2</sup> at 260 to 520 Hz

## Technical Specifications

### Mechanical Data

Male thread	M10x1
Weight without wire	36 g
Wrench size	27 mm
Installation torque	40 Nm
Sealing	Sealed cone

### Electrical Data

Power supply $U_s$	4.75 to 5.25 V
Max power supply $U_s$ max	16 V
Full scale output $U_A$	0.5 to 4.5 V $U_s$ ratiometric
Current $I_s$	10 mA

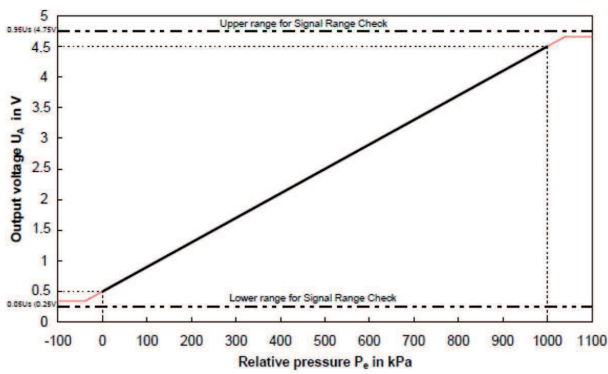
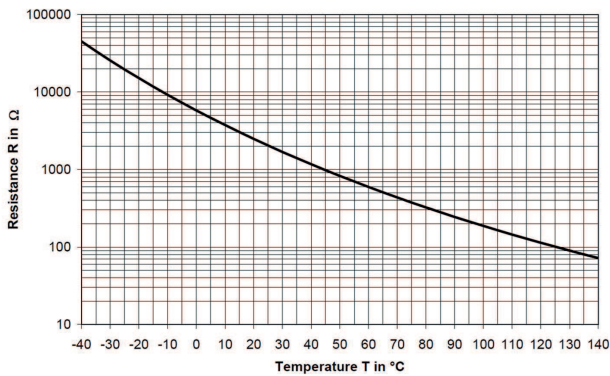
### Characteristic 1

Response time T10/90	Pressure: <5 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 $U_s$	+/-2 % at 25 to 85°C
Sensitivity	400 mV/bar at $U_s = 5$ V
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
20	2,480
30	1,683
40	1,167
50	824
60	594
70	434.9

80	323.4
90	244
100	186.6
110	144.5
120	113.3
130	89.9
140	71.9



### Connectors and Wires

Connector	Bosch Trapezoid
Mating connector	F 02U B00 751-01
Pin 2	Pressure Signal
Pin 3	Power Supply
Pin 4	Ground
Pin 5	Temperature Signal

### 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.

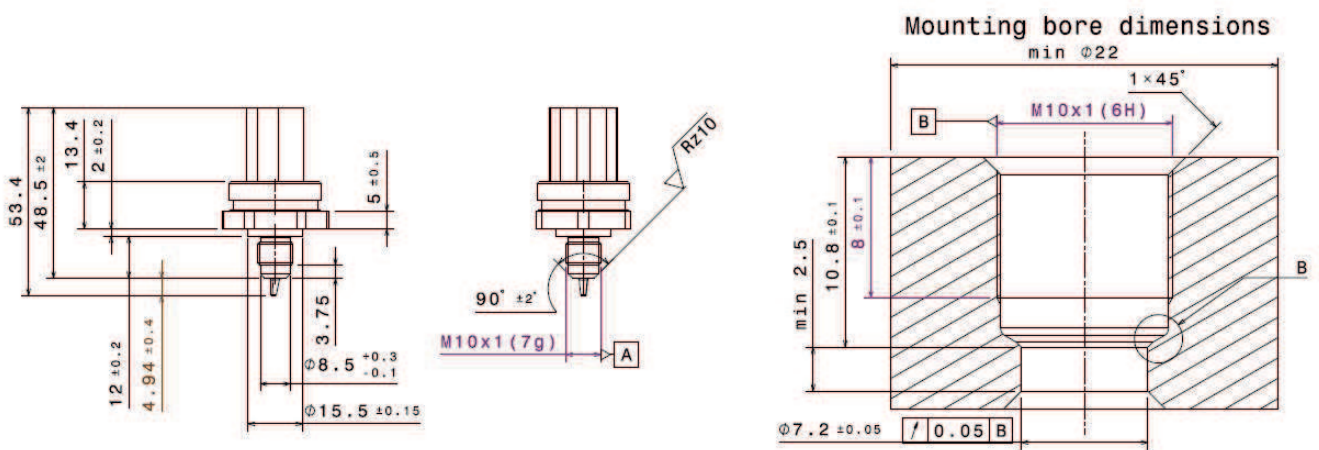
### Safety Note

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 1**  
 Order number **F 02U V0U 194-01**

### Dimensions



**Represented by:**

**Europe:**

Bosch Engineering GmbH  
Motorsport  
Robert-Bosch-Allee 1  
74232 Abstatt  
Germany  
Tel.: +49 7062 911 9101  
Fax: +49 7062 911 79104  
motorsport@bosch.com  
www.bosch-motorsport.de

**North America:**

Bosch Engineering North America  
Motorsport  
38000 Hills Tech Drive  
Farmington Hills, MI 48331-3417  
United States of America  
Tel.: +1 248 876 2977  
Fax: +1 248 876 7373  
motorsport@bosch.com  
www.bosch-motorsport.com

**Asia-Pacific:**

Bosch Engineering Japan K.K.  
Motorsport  
18F Queen's Tower C, 2-3-5 Minato  
Mirai Nishi-ku, Yokohama-shi  
Kanagawa 220-6218  
Japan  
Tel.: +81 45 650 5610  
Fax: +81 45 650 5611  
www.bosch-motorsport.jp

**Australia, New Zealand and South**

**Africa:**  
Robert Bosch Pty. Ltd  
Motorsport  
1555 Centre Road  
Clayton, Victoria, 3168  
Australia  
Tel.: +61 (3) 9541 3901  
motor.sport@au.bosch.com