

Pressure Sensor Combined PST-F 1

www.bosch-motorsport.com



BOSCH
Invented for life



- ▶ Relative fluid pressure and temperature measurements
- ▶ Pressure measurement range 0 to 10 bar
- ▶ Temperature measurement range -40 to 140°C

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 ² at 20 to 260 Hz 60 m/s ² 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 $U_S = 5\text{ V}$

Offset 500 mV at $U_S = 5\text{ V}$

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

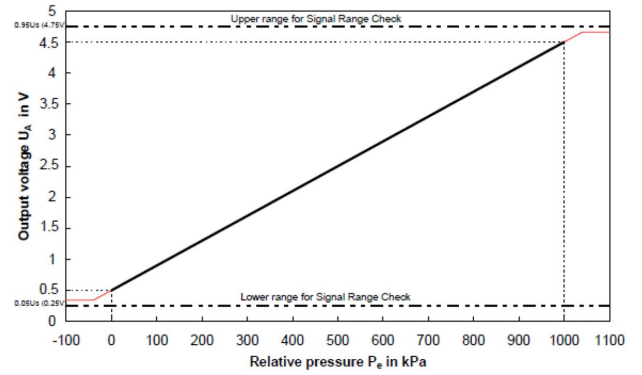
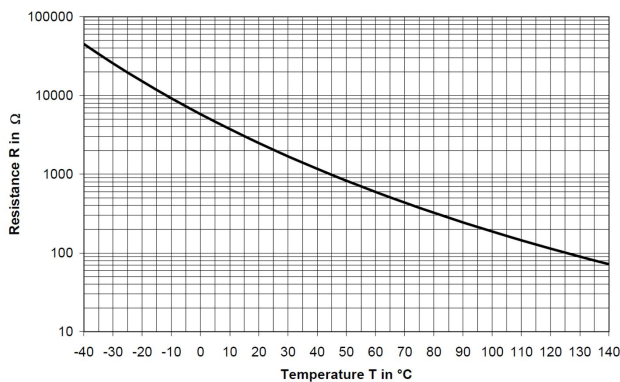
100 186.6

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	Sig
Pin 3	U_S
Pin 4	Gnd
Pin 5	NTC

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.

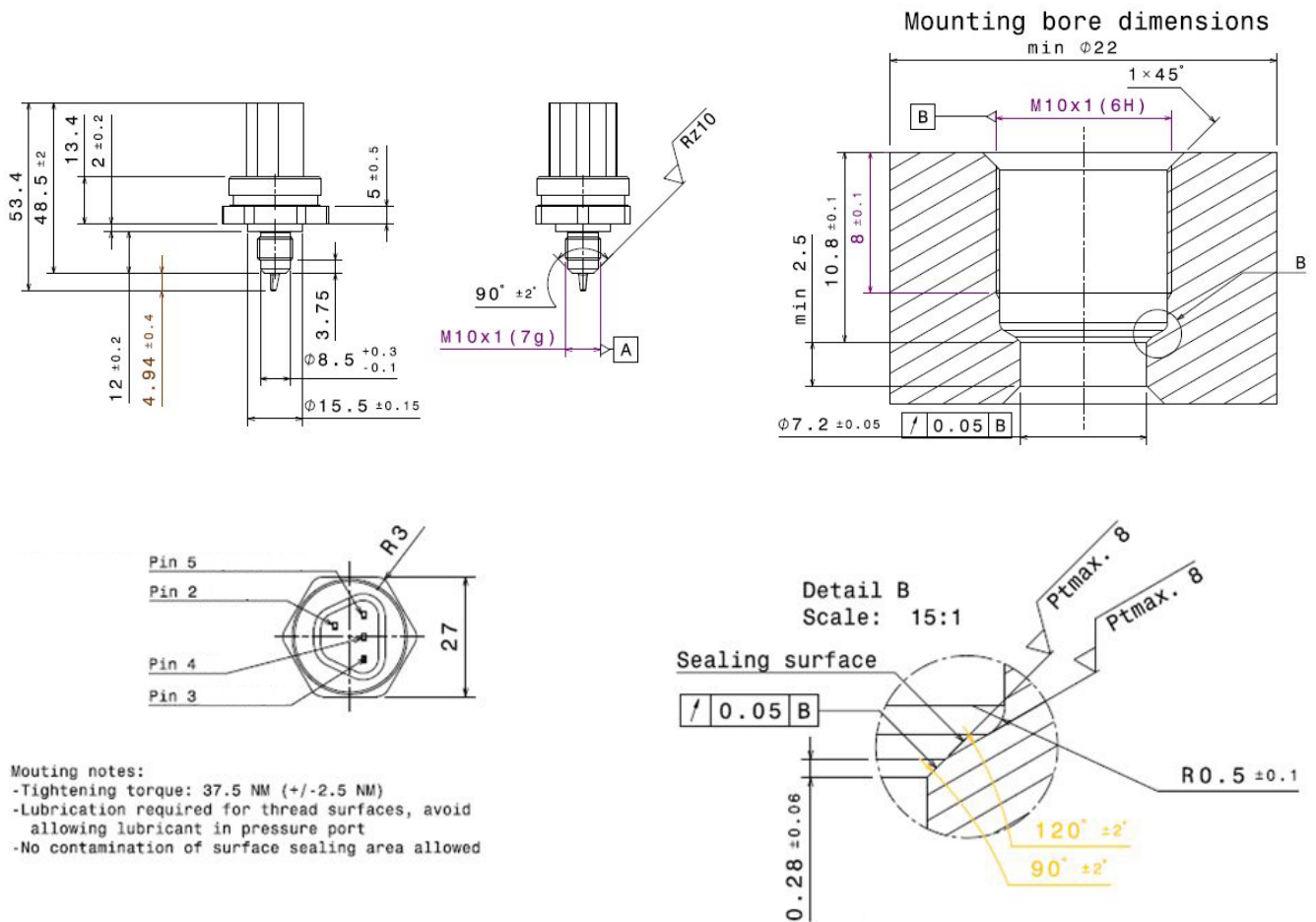
Safety Note

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



Mounting notes:
 -Tightening torque: 37.5 NM (+/-2.5 NM)
 -Lubrication required for thread surfaces, avoid allowing lubricant in pressure port
 -No contamination of surface sealing area allowed

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

Latin America:
 Robert Bosch Ltda
 Motorsport
 Av Juscelino Kubitschek de
 Oliveira 11800
 Zip code 81460-900
 Curitiba - Parana
 Brasilia
 Tel.: +55 41 3341 2057
 Fax: +55 41 3341 2779

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