

Pressure Sensor Combined PSM-SAT

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- ▶ Absolute fluid or air pressure plus temperature measurement
- ▶ Measurement range versions 3.5 to 700 bar
- ▶ Temperature measurement: PT1000
- ▶ High robustness against vibrations
- ▶ Analog output

This sensor is designed to measure absolute pressure of various kinds of media e.g. Diesel, gasoline, water, engine oil, transmission oil or air plus temperature. The sensor utilizes a flush metal diaphragm as a force collector. The force is transferred to a solid state piezo-resistive sensing element via a thin intervening film of noncompressible silicone oil. The housing is welded hermetically. An individual calibration sheet will be delivered with each sensor. The main feature and benefit of this sensor is a good protection against vibrations.

Application

Pressure measurement range versions	3.5 to 700 bar
Pressure reference type	absolute
Operating temp. range	-40 to 150°C
Vibration	2 g (10 Hz to 60 Hz) and 20 g (60 Hz to 1 KHz)
Shock (1/2 sine)	50 g (11 ms) and 200 g (6 ms)
Bio fuel compatibility	E85/M100

Technical Specifications

Mechanical Data

Housing	Stainless steel
Male thread	M8x1
Wrench size	12 mm
Installation torque	2.5 Nm max.
Weight	15 g + 20 g per meter of cable
Sealing	O-ring 6.35 x 1.6 VITON
Ingress Protection	IP66

Electrical Data

Supply voltage	8 to 32 V DC
Max current	< 8 mA
Non-Repeatability	± 0.05 % FSO typ.
CNL & H	± 0.25 % FSO
Bandwidth (-3 dB)	400 Hz
Output "FSO"	0.5 to 4.5 V = 4 V ± 50 mV

Characteristic

Compensated range	20 to 120°C
Long term stability	Offset = 0.1 % span/year; Span = 0.1 %/year
Zero offset at 23°C	0.5 V ± 50 mV (0.5 ± 100 mV for ranges ≤ 10 bar or 150 psi)
Sensitivity/Offset	(an individual calibration sheet will be delivered)
Thermal zero shift "TZS"	± 1 % FSO/100°C (± 2 % FSO/100°C for ranges ≤ 10 bar or 150 psi)
Thermal sensitivity shift "TSS"	± 1 %/100°C (± 1.5 %/100°C for ranges ≤ 10 bar or 150 psi)
Temperature sensor RTD	1,000 Ohms Platinum DIN EN 60751 63 % response time: 3 s max.

Connectors and Wires

Connector	ASU 6-03-05PC-HE
Mating connector ASU 0-03-05SC-HE	F 02U 000 208-01
Pin 1	U _s
Pin 2	Gnd
Pin 3	Sig
Pin 4	Temp. +
Pin 5	Temp. -
Sleeve	Viton
Wire size	AWG 24
Wire length L	15 to 100 cm
Various motorsport and automotive connectors are available on request.	
Please specify the required wire length with your order.	

Installation Notes

The PSM-SAT can be connected directly to most control units.

Each mounting orientation is possible.

Please do not fix the sensor directly to the engine block to avoid undesired strong vibrations.

100 % relative humidity is possible.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing 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 Fluid PSM-SAT
0 to 3.5 bar
Order number **F 02U V01 955-01**

Pressure Sensor Fluid PSM-SAT
0 to 6 bar
Order number **F 02U V01 956-01**

Pressure Sensor Fluid PSM-SAT
0 to 10 bar
Order number **F 02U V01 980-01**

Pressure Sensor Fluid PSM-SAT
0 to 20 bar
Order number **F 02U V01 957-01**

Pressure Sensor Fluid PSM-SAT
0 to 35 bar
Order number **F 02U V01 958-01**

Pressure Sensor Fluid PSM-SAT
0 to 60 bar
Order number **F 02U V01 962-01**

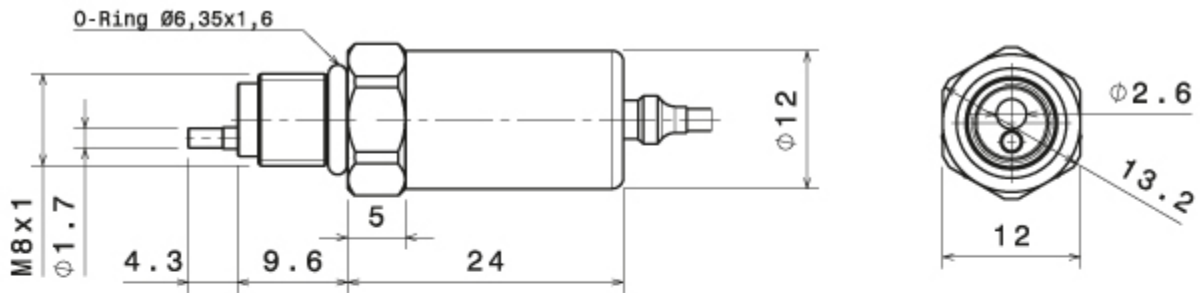
Pressure Sensor Fluid PSM-SAT
0 to 100 bar
Order number **F 02U V01 964-01**

Pressure Sensor Fluid PSM-SAT
0 to 200 bar
Order number **F 02U V01 965-01**

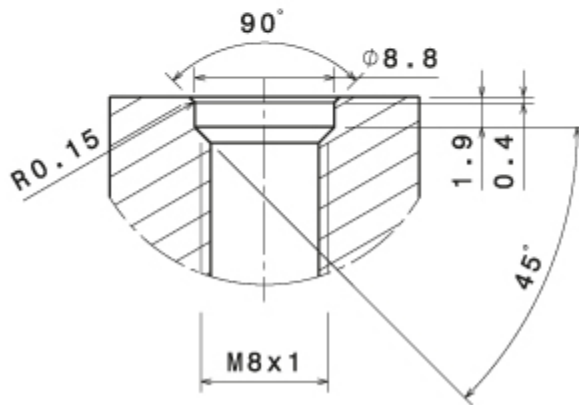
Pressure Sensor Fluid PSM-SAT
0 to 350 bar
Order number **F 02U V01 966-01**

Pressure Sensor Fluid PSM-SAT
0 to 700 bar
Order number **F 02U V02 065-01**

Dimensions



Recommended Mounting Port



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