

Pressure Sensor Air PSA-N



- ▶ Absolute air pressure measurements
- ▶ Measurement range 0.1 to 1.15 bar
- ▶ Analog output
- ▶ Very short response time

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

An integrated circuit combines a piezo-resistive sensor element and electronics for signal-amplification and temperature compensation. The output of the sensor is analog.

Application

Application	0.1 to 1.15 bar
Pressure reference type	absolute
Max. pressure	5 bar
Operating temp. range	-40 to 125°C
Media temp. range	-40 to 125°C
Storage temp. range	-40 to 130°C
Max. vibration	0.19 mm at 100 to 200 Hz 250 m/s ² at 200 to 500 Hz

Technical Specifications

Mechanical Data

Mounting	2 x #4-40 screws
Fitting	Flat O-ring boss
Weight w/o wire	21 g
Sealing	O-ring 4.5 x 1.5 mm

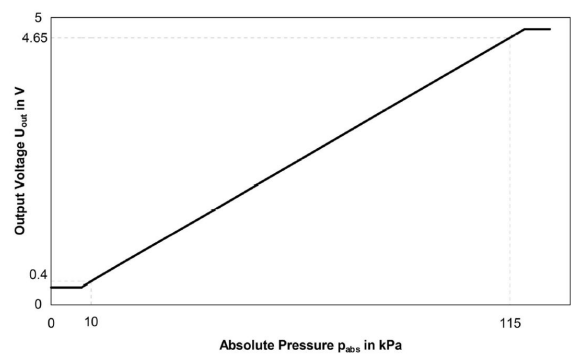
Electrical Data

Power supply U_s	11 to 16 V
Full scale output U_A	0.3 to 4.7 V
Typical current I_s	9 mA

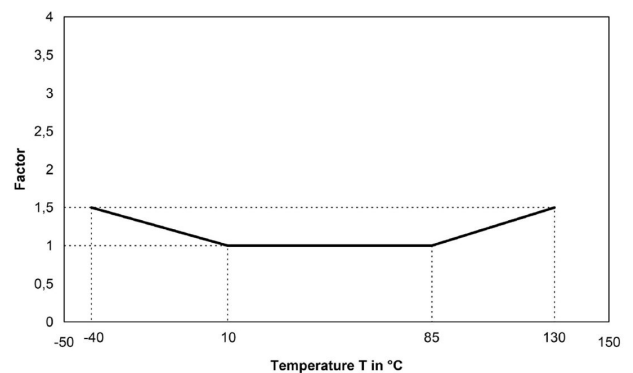
Characteristic

Response time T10/90	1.0 ms
Compensated range	10 to 85°C
Tolerance (FS)	± 0.016 bar
Tolerance (FS)	± 1.52 %
Sensitivity	4,041.62 mV/bar
Offset	-4.16 mV

Tolerance



Expansion of Tolerance



Connectors and Wires

Connector	ASL 6-06-05PC-HE
Mating connector	F 02U 000 228-01
ASL 0-06-05SC-HE	
Pin 1	U _s
Pin 2	Gnd
Pin 3	Sig
Pin 4	-
Pin 5	-
Various motorsport and automotive connectors are available on request.	
Sleeve	DR-25
Wire size	AWG 24
Wire length L	64.5 cm

Installation Notes

The PSA-N 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 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 A).

Surface finish of the mounting surface should not exceed 0.8 micrometers RMS.

Surface flatness tolerance at sensor mount interface must not exceed +/- 0.025 mm after sensor is torqued in place.

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

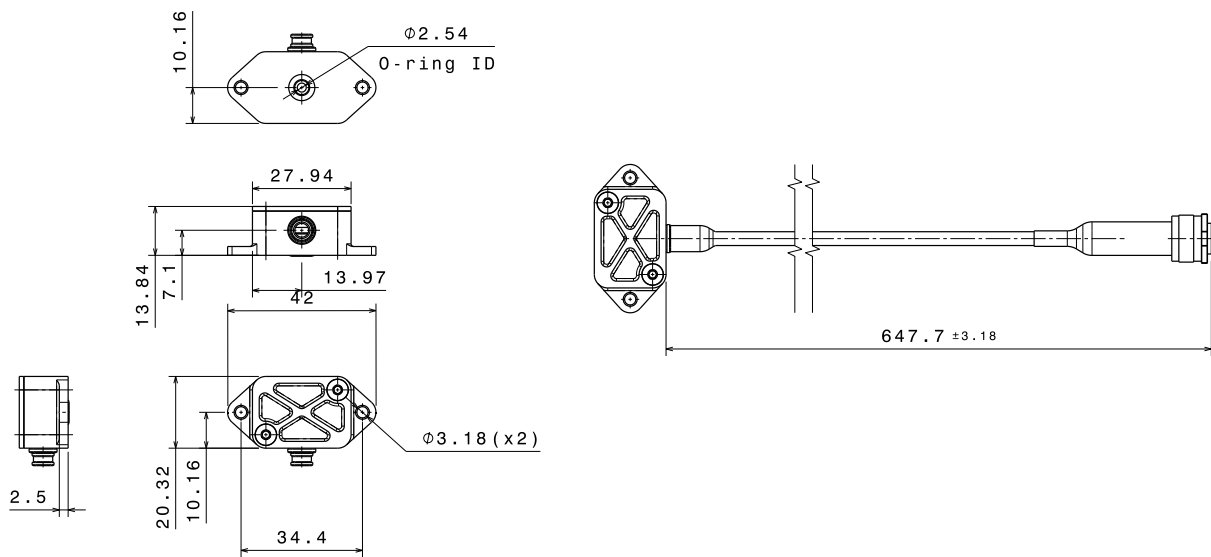
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Ordering Information

Pressure Sensor Air PSA-N

Order number **F 02U V0U 197-02**

Dimensions



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