

Pressure Sensor Air PSA-N

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Invented for life



- ▶ 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 an electronic for signal-amplification and temperature compensation. The output of the sensor is an analog, ratio metric signal.

Application

Application	0.1 to 1.15 bar
Pressure reference type	absolute
Max. pressure	5 bar
Operating temp. range	-40 to 130°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 14 V
Max power supply U_s max	16 V
Full scale output U_A at 5 V	0.3 to 4.8 V
Current I_s	9 mA

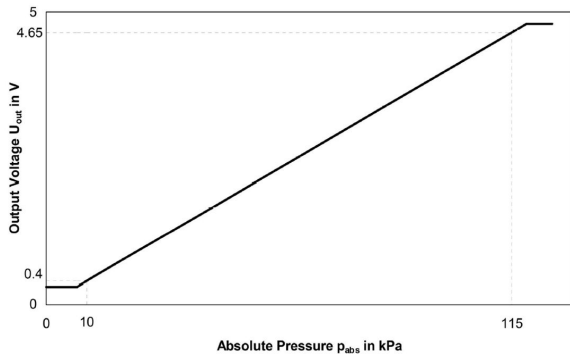
Characteristic

Response time T10/90	0.1 ms
Compensated range	10 to 85°C
Tolerance (FS) at $U_s = 5$ V	± 0.016 bar
Tolerance (FS)	± 1.4 %

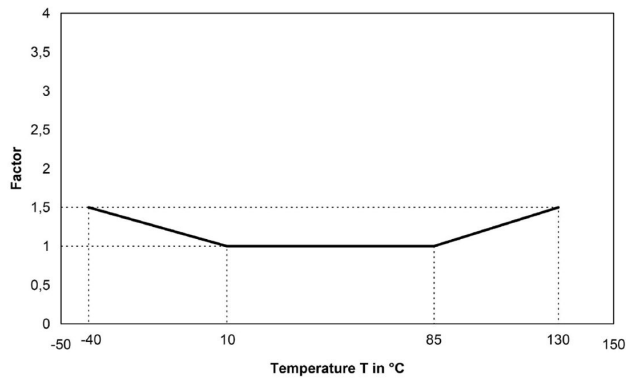
Sensitivity 4,041 mV/bar

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

Please specify the required wire length with your order.

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 micro-meters 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

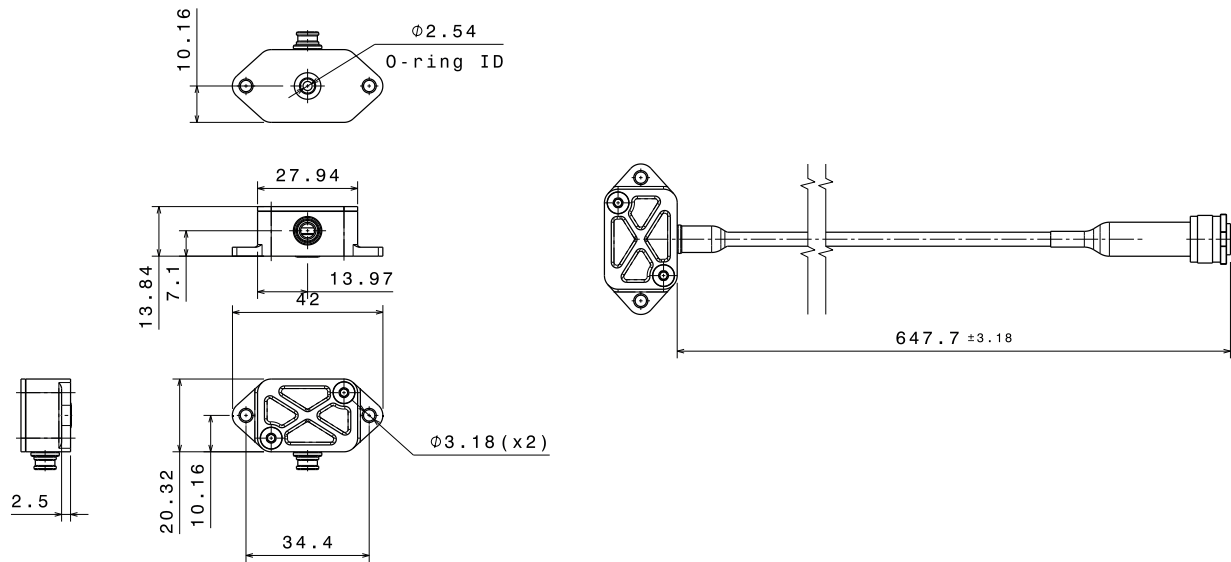
The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Ordering Information

Pressure Sensor Air PSA-N

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

Dimensions



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