

IPS pressure sensor

For heavy-duty applications

DESCRIPTION

The IPS pressure sensor is used in applications requiring a sensor with a high degree of robustness and media compatibility. The IPS is a reliable partner and provides precise and stable measurements over its entire life, even when used in tough conditions, when handled roughly and when exposed to high levels of vibration. The pressure sensor elements and pressure connectors are made of stainless steel and designed for absolute and relative pressures of up to 600 bar. The IPS is excellently suited for use in oil, petrol, diesel, H₂, CNG and LPG applications. The sensor's flexible design with a wide range of electrical connectors and output signals also means it can be adapted to fit any system perfectly.



FIELDS OF APPLICATION

- Mobile hydraulics
- Mechanical engineering
- Alternative drives, especially H₂, CNG and LPG applications



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KEY FEATURES

Robust design

Use of media-tested materials

Plenty of options available for connections and output signals

BENEFITS

- High resistance to vibration
- Specially designed for adverse environmental conditions and harsh handling situations

- High level of media compatibility, particularly suitable for H₂, CNG, LPG applications
- Approval according to the respective ECE regulations possible
- Reliable, stable measurements over the entire life cycle

- Simple and flexible integration, also in existing systems

Technical specification

IPS pressure sensor



Pressure ranges

Nominal pressure	0.2 ... 50 bar, absolute 0.2 ... 600 bar, relative ¹⁾
Pressure reference type	Relative and absolute pressure
Overpressure	2x nominal pressure
Bursting pressure	3x nominal pressure

Electrical characteristics

Supply voltage	9 ... 30 V 12 ... 30 V 5 ± 0.5 V
Supply current	typ. 10 mA
Output signal	4 ... 20 mA, 2 wire system 0 ... 5 V, 1 ... 6 V, 0 ... 10 V 0.5 ... 4.5 V, ratiometric
Overvoltage protection ²⁾	± 30 V
Reverse polarity protection ²⁾	± 30 V

Mechanical characteristics

Measurement element	Stainless steel Silicon sensing element with stainless steel membrane and oil filled
Case material	Stainless steel
Pressure connection	HEX 27, G1/4", M12x1.5 male thread ³⁾
Electrical connection	Bosch Compact plug, MQS plug, Packard plug, M12x1 plug ³⁾
Installation position	Arbitrary
Weight	Approx. 85 g

Accuracy

Total error ⁴⁾ (Standard version)	± 1% FS (0 ... 90 °C) ± 2% FS (-40 ... 125 °C)
Total error ⁴⁾ (High-precision version)	± 0.2% FS

Environmental conditions

Operating temperature range	-40 ... 90 °C (125 °C)
Media temperature range	-40 ... 90 °C (125 °C)
Media compatibility	Oils, petrol, diesel, H ₂ , CNG, LPG
ESD (DIN EN 61000-4-2) ²⁾	± 8 kV to contacts ± 15 kV to case
EMC (ISO 11452) ²⁾	250 V/m 200 mA (BCI)

Dimension



1) Initial value of -1 bar possible for relative pressure

2) Depending on the output signal and application

3) Other pressure connections and electrical connections available on request

4) Covers repeatability, hysteresis, non-linearity (TBL), calibration and temperature effects; depending on the pressure and temperature range