



# Maximum performance with every measurement – the pressure sensors by Continental.

EPS, EMPS, T-MAP



## Successfully combined – reliability and precision.

Our products are the result of our continuous work within the interface to the future. To develop new ideas, drive innovation and provide our partners with pioneering solutions – this is Continental's claim ... and promise. Our pressure sensors deliver on this promise – in its entirety. They are an expression of our many years of experience, our innovative strength and our technological expertise.

To ensure the trouble-free, safe and efficient operation of an engine, a great amount of widely differing measurement data must be collected and forwarded – and that data must be as accurate as possible. The active and passive sensors by Continental fulfil this task reliably and accurately – even in the toughest conditions.

Continental sensors are available in different designs with versatile functions and are individually adapted to the requirements in question. Temperature-resistant and insensitive to external influences, they are ideal for especially demanding applications.

These include municipal and commercial vehicles, agriculture and construction machinery and vehicles, the automotive industry, the off-road sector and stationary engines and marine applications.

## Active and effective – EPS.

As the successor to the passive, electro-mechanical sensor, the new EPS (Electronic Pressure Sensor) by Continental convinces with impressive performance data. Lighter weight, smaller dimensions, but greater precision – the EPS is the future of accurate pressure detection.

The EPS converts an existing system pressure into an electrical output signal that is proportional to the pressure, based on the piezoresistive effect and the resulting change in resistance.

Depending on the sealing material used, the EPS has a high resistance to oil, brake fluid, diesel, petrol, coolant, and many more. The EPS was especially developed for the precise pressure detection of

engine oil, gear oil, hydraulic oil and air pressure capture – so it is not only suitable for use in the automotive industry, but ideal for the off-road sector and in hydraulic and pneumatic applications.

The sensor is mounted by means of a screw connection, which can be customized for individual customers. Electrical connection to the vehicle electronics takes place by means of a plug.

## EPS



## Product advantages

- Direct pressure detection
- Can be used in many media
- Modular structure
- Customer-specific screw connections possible
- Customer-specific pressure ranges possible

### Technical specifications

Pressure range	0 bar ... 100 bar (Aluminium-fitting, crimped connection PSM*-to-fitting)
Pressure range	100 bar ... 600 bar (stainless steel fitting, welded PSM*-to-fitting)
Medium	Air, engine oil, gear oil (depending on annual volume further media resistances feasible)
Power supply voltage (V <sub>2</sub> )	8 V DC ... 32 V DC
Optional power supply voltage (V <sub>2</sub> )	5 V DC
Output signal	0.5 V ... 4.5 V
Temperature range	-40 °C ... +125 °C
Environmental protection	IP 6K9K
Electrical connector type	Bayonet according to ISO 15170 (formerly DIN 72585)

\* PSM: Pressure Sensor Module

## Robust and reliable – EMPS.

German quality work – already in use for decades and virtually unchanged, the EMPS (Electromechanical Pressure Sensor) by Continental still convinces the specialists with its robustness and reliability in continuous oil and air pressure detection.

The electromechanical sensor converts the measured pressure (via the deflection of a membrane and a mechanical translation) to the pick-up shoe of a measuring resistor. In some sensor versions, the ground is located on the housing, while other sensor types are not grounded, meaning that the ground is supplied via a separate connection. The sensors can also be equipped with an alarm contact – so in addition to its normal continuous measurement function, the sensor can also emit a signal when the pressure exceeds a specified limit.

A solid construction resulting in a high level of insensitivity and an extremely high degree of reliability make the sensor especially suitable for use in the harsh environment of special vehicles – whether the exact measurement of gear oil or engine oil pressure is needed, or brake air pressure monitoring. With the measurement values determined, the EMPS by Continental make a decisive contribution to the efficiency and reliability of engines ... and the entire vehicle.

### EMPS



### Product advantages

- Unmatched price-performance ratio
- Proven millions of times in practice
- Large selection of versions
- Made in Germany

#### Technical specifications

Pressure range	0 bar ... 5 bar; 0 bar ... 10 bar; 0 bar ... 16 bar; 0 bar ... 25 bar
Medium	Engine oil, gear oil, air
Power supply voltage ( $V_s$ )	6 V DC ... 24 V DC
Minimum power supply current	20 mA
Maximum power dissipation	250 mW
Switching load (option)	5 W (non inductive)
Output signal	10 Ohm ... 184 Ohm
Temperature range	-25 °C ... +100 °C

## Efficient and direct – MAP / T-MAP.

MAP (Manifold Absolute Pressure) and T-MAP (MAP with temperature detection) measure the air pressure in the intake manifold behind the throttle flap in order to determine the sucked-in air pressure. In petrol engines, this information is particularly important for calculating the fuel injection quantity, since this is what achieves the right air-fuel mixture. In turbo-charged diesel engines, the sensor-detected measured value is used (among other things) to control the boost pressure of the variable turbocharger.

The MAP and T-MAP data thus has a direct and decisive influence on the engine and on the reduction of fuel consumption and pollutant emission. As an optional extra, T-MAP can also measure and forward the temperature of the sucked-in air mass.

### T-MAP



### Product advantages

- Direct measurement of pressure by integrated single chip technology
- Large measurement range
- High accuracy and temperature stability
- Excellent dynamic response

#### Technical specifications

Pressure range	Up to 1.2 bar (MAP) up to 3.5 bar (Turbo MAP)
Temperature range	± 40 ... +125 °C
Power supply voltage (V <sub>s</sub> )	5 V ±0.5 V
Transfer function	Linear to applied pressure, ratiometric
Accuracy over full-scale	1 % full scale (+10 ... +85 °C)
Response time	63 %: < 1 ms
Load resistance	≥ 5 kOhm pull-up or pull-down
Option	Integrated temperature sensor (NTC)

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