Rugged, reliable, always accurate: our differential pressure sensor.

The 2-port pressure sensor for diesel particulate filters from VDO provides outstanding differential pressure measurement. This sensor is extremely precise and highly reliable under even the most demanding conditions, thanks to back-side sensing.

Using the differential pressure measured between the filter outlet (P1) and the filter intake (P2), the VDO pressure sensor is able to determine with a high degree of precision the actual exhaust gas flow through the diesel particulate filter and therefore the level of clogging in the filter. The sensor generates an analog output voltage proportional to the differential pressure, which is used as input by the electronic control unit (ECU).

If this voltage exceeds a predefined value stored in the ECU, the control unit initiates a regeneration process to burn off the residue in the particulate filter. This process restores gas flow to the original level, thereby allowing optimal performance to be achieved.

Product benefits:

- Direct pressure measurement
- Suitable for system-internal and emissions diagnostics
- Wide measurement range
- High accuracy, high thermal stability
- Excellent dynamic response
- Complies with the strictest EMC requirements
- Resistant to even highly aggressive media

Technical data:	
Operating characteristics:	
Response time:	< 2 ms
Temperature range:	-40 °C to +140 °C
Accuracy:	1 % FS(10 to 85 °C)
Supply voltage (Vs):	5.00 ± 0.5 VDC
Supply current at 5 V:	10 mA max.
Pressure range:	0 kPa to 125 kPa
Load resistance:	< 4.7 kΩ
Power on time:	< 10 ms
Weight:	< 45 g
Maximum ratings:	
Overpressure:	500 kPa
Storage temperature:	-40 °C to +150 °C
Supply voltage:	16 VDC

Differential pressure sensor.

Continental Trading GmbH
Sodener Strasse 9
65824 Schwalbach
Germany
Phone: +49 6196 87-0
Fax: +49 6196 86571
industrial@vdo.com
www.vdo.com
VDO – A Trademark of the Continental Corporation

A2C59514008 I Continental Trading GmbH I English © 2010
Printed in Germany

www.vdo.com

Emissions and fuel management – the new efficiency.

- UniNO$_x$ sensor
- High temperature sensor
- Differential pressure sensor

Better for the environment.

Regulations to protect the environment are getting stricter every year – and rightly so. Preserving the quality of life on our planet for future generations is a matter of global concern.

Sensors have an important role to play here, given the dependency of the modern world on technology. High sensitivity measurement with sensors is essential not only for efficient fuel management, but also for effective emissions reduction.

Our innovative range of sensors is designed to promote sustainable use of natural resources and provide effective protection for the environment. As such, it is a key element in driving forward this pioneering work.

Nitrogen oxide, temperature, and pressure sensors from VDO make a real contribution to meeting both current and future emissions standards, while at the same time helping to reduce fuel consumption. Their quality, stability, and longevity is exemplary and bears testimony to our many years of automotive experience. All of the sensors can be used across a variety of systems and are ideally suited for particularly challenging applications. Examples include passenger cars, municipal vehicles, commercial vehicles, mobile cranes, and buses, as well as off-road and special-purpose vehicles.

Intelligent, innovative, award-winning: our UniNO$_x$ sensor.

A milestone in the measurement of nitrogen oxides in gasoline and diesel engines, the VDO UniNO$_x$ sensor was the world's first mass-produced exhaust sensor and is impressive proof of our automotive credentials. It measures NO$_x$ in concentrations of parts per million, allowing it to assume an important role in the engine system.

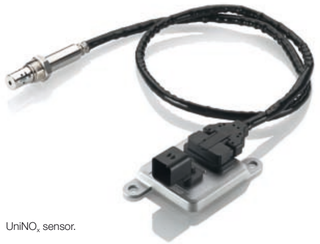
With its high measurement accuracy, this extremely sensitive sensor from VDO provides manufacturers of special vehicles and machines with the ideal tool for meeting ever-stricter emissions standards around the globe, while at the same time optimizing fuel efficiency.

In recognition of its pioneering role in a new era of intelligent emissions monitoring, in April 2010 the UniNO$_x$ sensor was awarded the PACE award by Automotive News.

Product benefits:

- **Modular, stand-alone NO$_x$ sensor**
  - Standardized electronics interface via CAN bus
  - Compatible with catalytic converters, ECUs, and engine management systems from all manufacturers
  - All electronic components integrated into the sensor
  - Rapid self-diagnostics
  - Combines the ceramics expertise of NGK insulators with the electronics know-how of Continental
  - Represents over 20 years of experience in sensor technology
  - Pioneering application of sensor calibration and control technology expertise
- **Volume production**
  - First mass-produced application for gasoline engines in 2001
  - Volume production for diesel engines since 2005

Technical data:	
Measuring principle:	ZrO_2-based multilayer sensor with integrated heater and 3 oxygen pumps
Triple output signal:	NO_x, binary λ, linear λ or O_2-conc.
Supply voltage:	12 V or 24 V
Data link:	CAN 2.0 or SAE-J-1939
Self-diagnosis:	Open wires and short-circuits of connection sensor / electronics
Operating gas temperature:	100 – 800 °C
Measuring range:	NO_x: 0 – 1500 ppm λ: 0.75 to air



UniNO$_x$ sensor.

Maximum performance at 1200 °C: our high temperature sensor.

The high temperature sensor from VDO also performs a key role in the exhaust gas after-treatment process. It delivers impressive long-term stability and provides high accuracy temperature measurements with good linearity. The heat-resistant temperature probe has many applications in innovative systems, including:

- Measurement of exhaust gas temperature for optimization of the combustion process
- Measurement of exhaust gas temperature for protection of various components
- Control and monitoring of diesel particulate filter systems

The measurement range extends up to 1200 °C. Thanks to its ability to generate a reliable measurement signal under such harsh conditions, this sensor makes it possible to deliver a perfectly controlled fuel supply for combustion in the diesel particulate filter.

Product benefits:

- High precision
- Minimal signal aging across the entire life cycle
- Compact construction allows optional fitment
- Low thermal inertia ensures rapid response characteristics

Technical data:	
Response time T63:	4 – 13 s (20 m / s gas flow)
Temperature range:	-40 °C ... + 1200 °C
Working temperature for the cable:	200 °C (250 °C short time)
Working temperature electronics:	-40 °C to 125 °C (140 °C optional)
Accuracy low temp. (< 500 °C):	± 2 °C + 0.75 % FSO
Accuracy high temp. (> 500 °C):	± 7.5 °C
Refreshing rate:	> 100 Hz to 12 bit
Supply voltage:	5 VDC (12 VDC, 24 VDC optional)
Resolution ADC:	14 bit
Connector:	3 pins
Thermocouple:	Type N
ASIC:	(16 bit C, instrumental amplifier, reference temperature)
Output:	PWM, 5 V, CAN

High temperature sensor.