



www.vdo.com

Fuel level measurement for commercial and special-purpose vehicles

- Robust
- Innovative
- Efficient

VDO



Efficient fuel management

Small cause – great effect: A rule that fully applies to fuel level measurement systems. This is why the reliable collection of fuel levels for commercial and special-purpose vehicles is considered a prerequisite for predictable and efficient vehicle availability.

Innovative solutions

Our sensor systems are optimized specifically for this area of application with its sometimes very difficult environmental conditions. We have been active in this area for over 30 years and with sensor innovations such as the magnetic passive positioning sensor (MAPPS) have created the conditions for being able to significantly extend the service life of fuel level measurement systems – even in aggressive fuels.

For each tank geometry

With an extensive assortment of basic concepts we supply solutions for a large number of different tank geometries, flange openings (e.g., EU bayonet flange) and fuel requirements. On the basis of a modular principle we are also able to assist our customers with products in smaller quantities. In this view customer-specific lever arm sensor lengths can be implemented starting as of approximately 2,000 units annually.

Scaleable levels of integration

Our extensive assortment of sensor solutions includes classics such as dip pipe sensors and lever arm sensors with thick-film network technology (DSN) sensors, as well as contactless sensors which are therefore free of wear and tear.



Metal dip pipe sensor

Depending on the requirements of the tank or vehicle manufacturer, functionality options range from robust sensors of a simple construction up to complex solutions including connections for fuel supply (feed and return line for engine injection system and auxiliary heating



system) as well as ventilation of the tank, all of which are integrated in the flange geometry. Regardless of the functional principles and design, all systems are designed for a long service life and have been proving themselves in series for many years.

DSN technology

Sensors in thick-film network technology are a popular standard, because they provide reliable fuel level measurements and allow for a customised preparation of resistance characteristics diagrams for asymmetrical tank geometries. Our estimated delivery quantities for 2008 alone are approximately 30 million units.

We use several designs of lever arm sensors with sensors in thick-film network technology for a variety of sophisticated requirements: The standard edition includes two grip contacts in AgNi20 and is designed for one million cycles. Also available is a 3-finger system with two sets of three contacts which is designed for two million cycles (AuNi5).



Plastic lever arm sensor (DSN technology)



The hermetically sealed MAPPS element at a length of only four centimetres.

MAPPS functionality: The magnet on the lever arm sensor pulls down flexible contact pads on a contact board, producing a characteristically electronic resistance signal.

Contactless measurements for aggressive fuels

While conventional sensor technologies in fuel and diesel achieve the required service life requirements, these values cannot automatically be transferred for use in new fuels, such as rapeseed oil methyl ester (RME, biodiesel). In the case of conventional sensors in RME thick film technology, aggressive components can accelerate the wear and tear of contact surfaces, even for high-quality contact materials.

Contactless measurements represent a more secure method of achieving long-term fuel level measurements in these different basic conditions.

Our MAPPS meets this requirement. The actual sensor element of this patented sensor is hermetically sealed and hence does not come into contact with the fuel. Measurements are carried out via a lever arm sensor, which moves a small magnet in a bow-like manner over the outside of the sensor housing. The magnetic force pulls individual metal pads (of a total 52) on a contact board on the inside of the sensor, producing a characteristic electrical resistance which is the measurement value.



Plastic lever arm sensor (MAPPS technology)

One sensor principle – different tank depths

We offer efficient solutions even for this requirement. The new type ALAS 2 (Adjustable Lever Arm Sensor, second generation) fuel lever arm sensors can be adjusted for different tank depths in the range of 100 and 400 mm. This allows a vehicle manufacturer or tank system specialist to equip different tank depths of an entire model series with one single sensor principle. This solution is especially advantageous for smaller quantities, as is typical for special-purpose vehicles.



Type ALAS 2 adjustable lever arm sensor

Continental Trading GmbH

Sodener Strasse 9
65824 Schwalbach am Taunus
Germany
Phone: +49 6196 87-0
industrial@vdo.com
www.vdo.com

VDO – A Trademark of the Continental Corporation

The information provided in this brochure contains only general descriptions or performance characteristics, which do not always apply as described in case of actual use or which may change as a result of further development of the products. This information is merely a technical description of the product. This information is not meant or intended to be a special guarantee for a particular quality or particular durability. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. We reserve the right to make changes in availability as well as technical changes without prior notice.

A2C59512750 | Continental Trading GmbH | English © 2010
Printed in Germany