

## Award for innovative level sensor

**Mühlacker, April 2<sup>nd</sup> 2008 - Just a few weeks after the ultrasonic level sensor “MOTOSONIC” started its series production, the German institution “Initiative Mittelstand” awarded the product with a price. Because of its high degree of innovation and its customer benefit the sensor got the “Industriepreis 2008” – an award, which is given once a year to small and medium-sized businesses with extraordinary product developments.**

The deciding product features for winning the price were its flexible application, which offers a low cost solution for producers of construction and agricultural machinery, municipal and special vehicles, trucks and busses. As the ultrasonic level sensor MOTOSONIC is freely programmable, the producer has to buy only one sensor with a fixed price – independent from the liquid in the tank as well as from the tank shape of the vehicles or machines. Because of its standardised installation size the MOTOSONIC can be integrated easily and quickly in commercially available tanks. For the installation there are no special qualifications or trainings necessary.

### Measurement with ultrasonic technology

As the measuring of tank contents was up to now calculated by conventional resistor sensors and the mechanical floating technology, the well-known brand MOTOMETER enters with the ultrasonic level sensor a new dimension of measuring content levels because measurement of the liquid level in a tank is done contactless by using ultrasonic technology. The ultrasonic sensor MOTOSONIC generates a high frequency sound wave to measure the time, the wave needs to run to the fluid level and back, after it was reflected by the liquid surface. Based on the measured time and the speed of sound, the distance between the sensor and the liquid surface can be calculated, and by this means the tank content as well. It is important for the calculation to take also the tank shape into account, just as waves on the surface of the liquid or possibly upcoming reflections in the tank. Compared with classical level sensors, measurement with the ultrasonic method is very precise, because distance is detected with an accuracy of  $\pm 3.2$  mm and a resolution of 1.8 mm. Moreover measurement is done contactless to the medium, what avoids abrasion of mechanical parts and increases the lifetime of the sensor.

MOTOSONIC can be used for quite a high number of liquids, e.g. diesel fuel, various types of oil and coolant liquids, up to chemicals and water. Fixing on the tank is realized by a 54 mm 5-hole-flange or an 80 mm 6-hole-flange adapter (other flanges can also be offered on request). A focus tube that can be fixed at the MOTOSONIC provides precise measuring results, even in

extreme conditions like steep grades. The electrical connection is realized with an AMPconnector. By programming a table of interpolation values into the sensor, tank contents of various tank shapes can exactly be displayed on standard gauges.

The MOTOSONIC is currently able to measure a maximum tank depth of 850 mm. In future the measurable depth will be raised up to 1000 mm. The MOTOSONIC can be operated at an operating voltage between 10 and 32 Volts and is therewith suitable for electrical systems of 12 Volt or 24 Volt power supplies. As the operation temperature lays between -40 up to +85°C the ultrasonic level sensor can also be used for the measurement of the emission reducer AdBlue.

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As owner of the MOTOMETER brand IVEKA sells worldwide products for vehicle manufacturers, repair shops and system engineers. The product portfolio includes workshop and test equipment as well as tachographs, display systems and sensors.

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