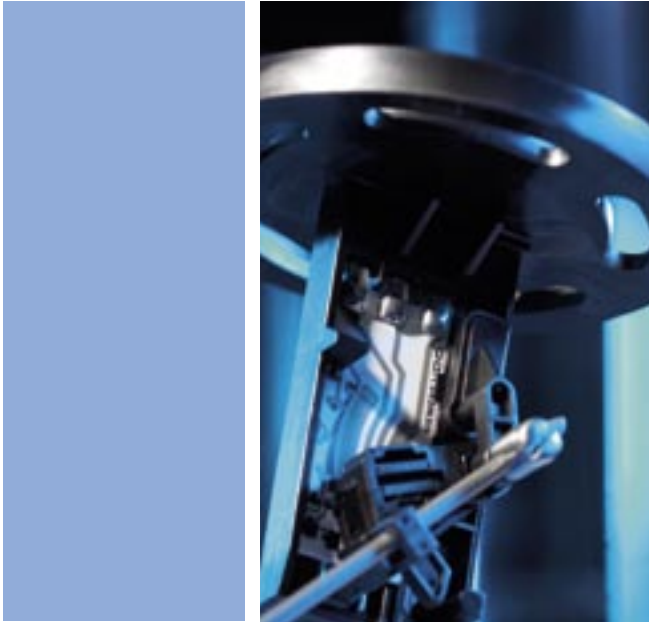# Flexible measurement of fuel levels

Adjustable Fuel Lever Arm Sender

www.siemensvdo.com

To ensure the safe operation of vehicles and machinery it is important to be reliably informed about the current fuel level at all times. Lever-type senders measure the level in the tank and send the information to the corresponding display instrument. An additional reserve function can be set to provide a warning when the fuel level is too low.

A new generation of lever-type senders

Our new, specially developed lever-type fuel senders now offer our customers a robust and particularly flexible way of ensuring reliable fuel measurement for various tank depths.

The system is based on a lever arm, which captures the current fuel level. The length of the lever arm can be adapted to specific requirements and shortened. This makes it possible to equip various tank depths (145 mm to 400 mm) using just one system – an advantage that is particularly attractive with shallow tanks.

Two versions of the adjustable fuel lever arm sender are available – with and without warning contact. The version with integrated warning contact can be hooked up to an external reserve display

that indicates when a defined minimum level has been reached, for example. The lever arm is flexibly supported to compensate for non-level conditions and movement. It has been successfully deployed in the marine sector for many years. This proven, robustly designed technology features a high level of display accuracy and can now be used in many other scenarios, ranging from small engines to agricultural machinery and large stationary machines.

Versatile deployment scenarios

_ Small engines and construction machinery
  (mini-excavators, dumpers, compressors, etc.)
_ Agricultural machinery
_ Marine applications (sports and leisure boats, jet skis, etc.)
_ Two-wheeled machines (motorcycles, scooters, etc.)
_ Micro cars, quad bikes
_ Stationary machines (generators, compressors, etc.)

This product is available in single packs and in packs of 10.

SIEMENS VDO

Technical specifications

Tank depth:
_ Adjustable from 145 mm up to 400 mm

Rated voltage:
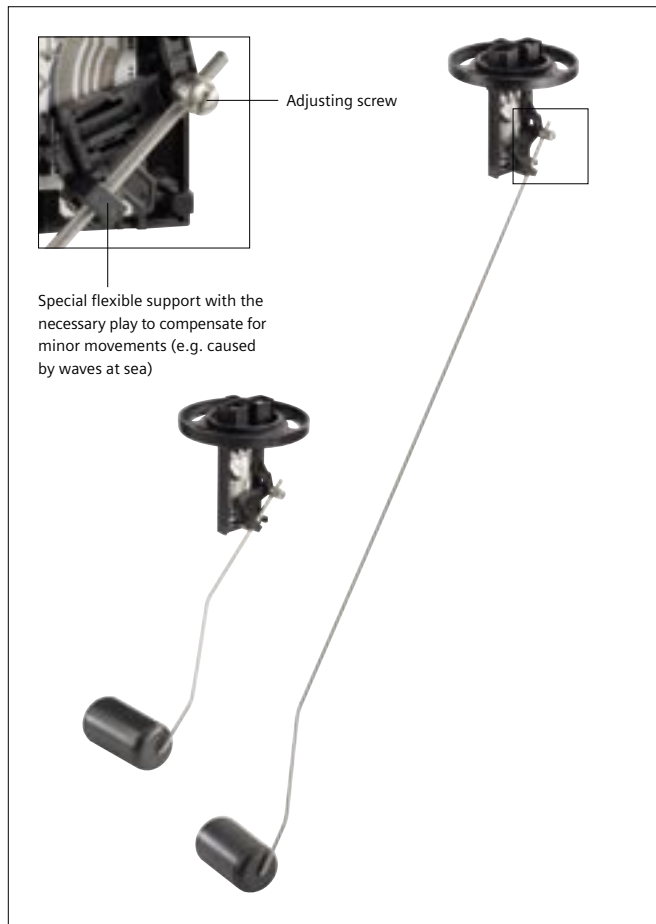_ 6 V to 24 V, insulated return

Resistor ranges:
_ 3 Ω (empty) to 180 Ω (full)
_ 240 Ω (empty) to 33.5 Ω (full)
_ 2 Ω (empty) to 90 Ω (full)
_ Optional warning contact at 15% remaining volume
_ Measurement resolution in 39 steps
_ Depending on customer requirements other resistor ranges may be specified

Mounting geometry:
_ 5-hole flange with 54 mm diameter

Electrical connection:
_ 6.3 x 0.8 (2x)
_ 2.8 x 0.8 (1x; for warning contact version only)

Adjusting screw

Special flexible support with the necessary play to compensate for minor movements (e.g. caused by waves at sea)

Can be adjusted for tank depths from 145 to 400 mm

Benefits

_ Adjustable fuel lever arm sensor
_ Versions with and without warning contact
_ Ø 54 mm – standard flange
_ 3 different resistor ranges (thick film technology) for operating standard gauges (depending on customer requirements other resistor ranges may be specified)
_ Support of various tank depths via easily adjusted lever arm
_ Robust design
_ Long life, redundant contact system
_ All metallic parts in stainless steel
_ Float made from NBR – float will not sink if damaged
_ Electrical connection protected by socket housings
_ Flexible mounting geometry using elongated holes
_ Defined movement of lever arm for extended service life – e.g. protection against wave impact on boats over a long time
_ Resistor element with an extended lifetime (1 million cycles 'full/empty' in Super unleaded fuel)

Accomplished qualification tests

_ Ageing in circulated air (DIN EN 60068-2-14)
_ Temperature cycle/shock (DIN EN 60068-2-14)
_ Leak tightness with respect to gases
_ Pressure resistance (test pressure 2.5 bar absolute)
_ Sealing against dust and water spray (DIN EN 60068-2-14)
_ Humid heat (DIN EN 60068-2-30)
_ Salt spray fog (DIN EN 60068-2-11)
_ Resistance to chemical agents (diesel fuel, FAM test fuel, sealant, central hydraulic system fluid)
_ Vibration (DIN EN 60068-2-64)
_ Endurance test
_ Protection against ignition of surrounding inflammable gases (ISO 8846)

Installation kit (available separately, not supplied)