



LEVELMEASUREMENT



ROAD
Indicating technology and sensors

Level Sensors
RE11 Series



Performing together to create high quality solutions

Level Sensors RE11 Series

Initial situation

A manufacturer of harvesting vehicles was dissatisfied with the current fuel level of his harvesting machine. The effective operating time of the machine during harvesting was to be increased, for which purpose a new tank with a significantly increased volume was to be introduced into the current series. An analysis of the installation space resulted in a theoretically possible increase of the tank volume to the desired extent. In addition to the tank filling and various tank connections, the installation situation of the level sensor also had to be fundamentally changed due to the available space. Installation of the level sensor from above as before was made impossible by the new space conditions.

Task definition

ROAD was commissioned to develop a new way of mounting the sensor without changing technical requirements and taking into account the necessary environmental and safety requirements. The new sensor should be accessible without any additional mounting effort on the machine.

Our solution

In close cooperation with our customer, ROAD has developed a sensor solution for lateral installation in the fuel tank. The basis for this was the basic design and the tried and tested components from the RE11 sensor series. ROAD realised a sensor which enables lateral installation in the tank by means of a sensor tube angled at 90° after the mounting flange. It was also important to note that the fuel level rises to above the installation opening and can remain there permanently.

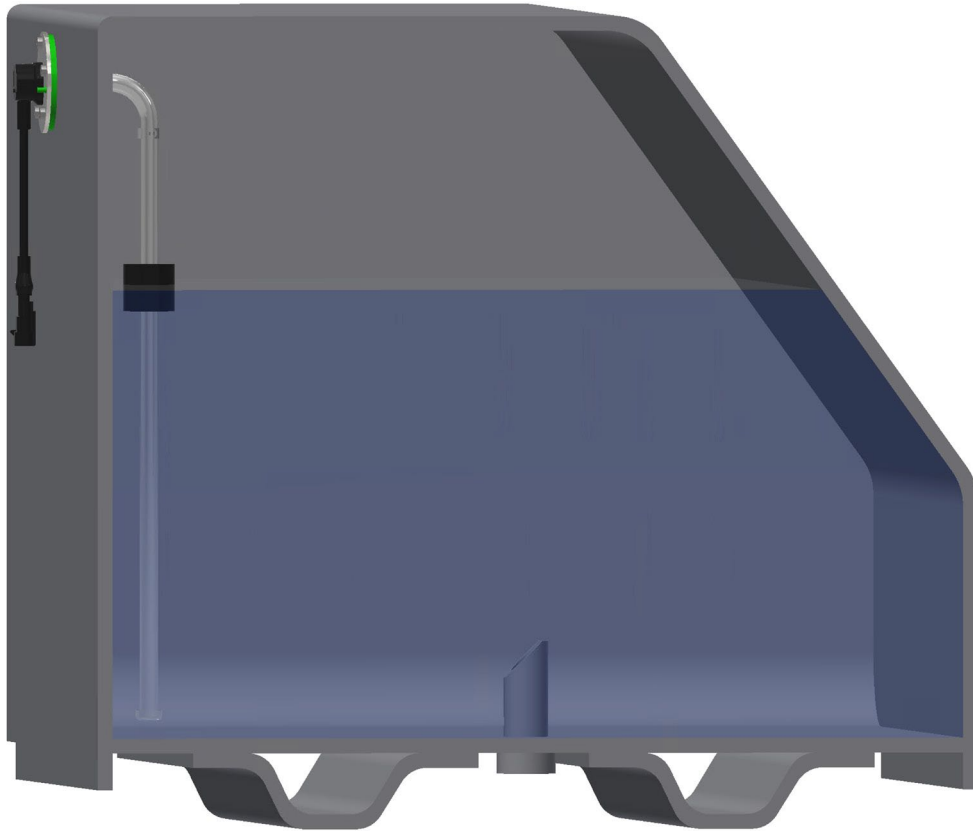
The result

The new sensor developed by ROAD convinced our customer and was realised within a few weeks. Our solution enabled the customer to successfully implement his new fuel tank. The new sensor variant RE11 is being installed in the current series and convinces in the application as usual with extraordinary reliability. The installation is carried out with the identical tools and the same mounting material, process changes were not necessary.

Outlook

Due to the success of this project, ROAD is already planning to implement further variants for side installation. In the future, there will also be variants including fuel connections on the flange (intake and return lines) to supply the engine.

Display of the installation situation in the tank



Illustrations of the RE11 Series for side installation



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Intended use

The level sensors of the RE11 product series are mainly used for continuous level measurement of various liquid media. Typical media are diesel fuels including biodiesel, petrol, alcohol, oils, water, silage additives and other chemical media. The level measurement of the RE11 product series is based on our non-contact reed technology, highly reliable, extremely robust and easy to use. Level sensors without compromise.

Application areas

- Construction, agricultural and forestry machinery
- Trucks and buses
- Harvesting machines
- Power and air compressors
- Rail and marine transport
- Industrial
- Aviation

Technical data

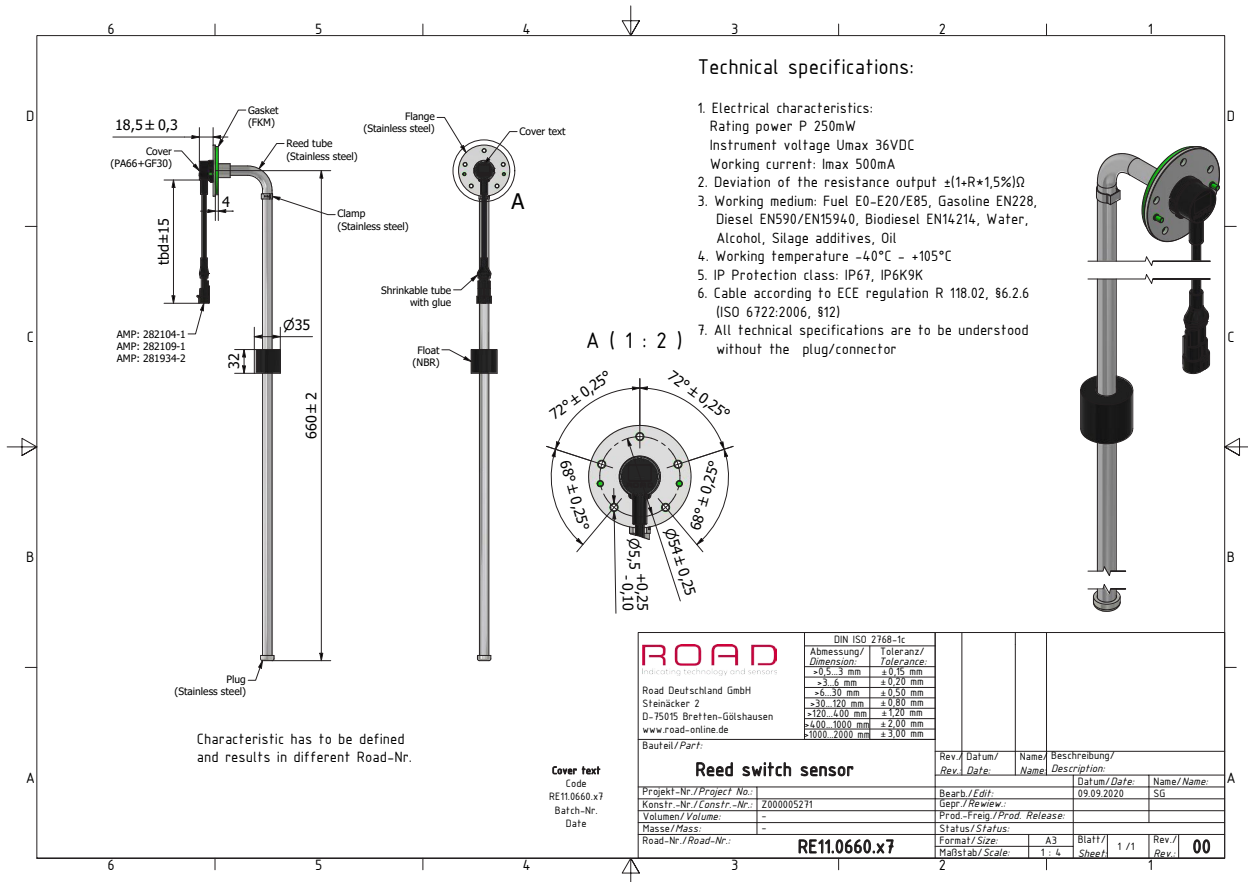
Operating voltage	max. 48V DC
Output Signal	resistance, voltage, current
Characteristics	linear, inverted or customer-specific
Sensor length	max. 1860mm
Resolution	high resolution / HD = 7-9mm, Standard / SD = 14-20mm
Operating temperature	-40°C to 105°C
Storage temperature	-40°C to 105°C
Media compatibility	Diesel fuels including biodiesel, heating oil, petrol, alcohol, oils, water, silage additives

Materials	
Housing	die-cast stainless steel
Tube	Stainless steel
Float	NBR
Seal	FKM, flat seal or captive O-Ring
Mounting / Flange	4-,5- and 6-hole flange, BCD \varnothing 54, 60, 80mm
Electrical connection	Plug and cable length freely selectable

Options

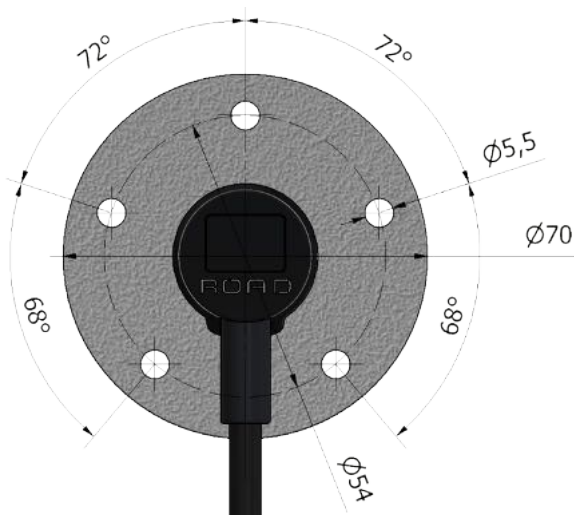
Temperature measurement	PTC or NTC
Switch contact	full or empty
Version	as switch single-stage or multi-stage instead of sensor

Technical drawing in general



Mounting flanges

Bolt-Circle-Diameter 54mm,
5-hole, flat seal

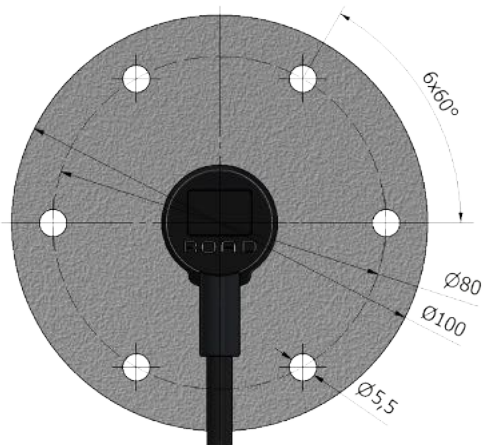


Bolt-Circle-Diameter 60mm,
6-hole, symmetrical, flat gasket

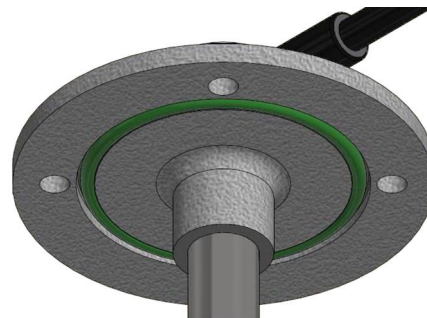
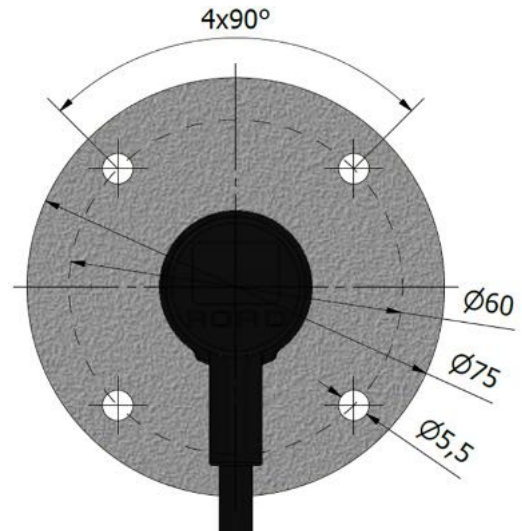


Mounting flanges

Bolt-Circle-Diameter 80mm,
6-hole, symmetrical, flat gasket



Bolt-Circle-Diameter 60mm,
4-hole, captive O-Ring



Notes

A series of horizontal dotted lines for taking notes.



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