

## Fuel Level Sensors

### New Product Information Standard Tubular Level Sensor



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## 1. Introduction

During the last years the market situation for tubular level sensors has changed. Apart from the observably constant decline in price level we also offer - besides customized solutions - an additional standard product line at very attractive price levels.

We are able to offer a standard program at a high quality. The idea was to transfer the established tubular sensor technology to a modular based design.

With the two spade connectors 6.3 x 0.8mm included in delivery the following configurations of the electric connections are possible:

- Threaded stud M4 for signal output without ground connection
- Threaded stud M4 for signal output and spade connector for ground connection
- Spade connector for signal output without ground connection
- Spade connector for signal output and spade connector for ground connection

Moreover, this standard solution will be available in 34 different lengths between 150mm and 800mm. Thus, most of customer demands can be met.

The advantage is a wide range of applications:

- Automotive
- Light and Heavy Duty commercial vehicles
- Off-Road applications
- Diesel and gasoline applications

**Please note:** The standard tubular level sensors will not be available with warning contact.

This product line not only warrants existing projects to be continued competitively, but the attractive price/performance ratio also allows a penetration of very price sensitive markets, which we did not reach in the past.

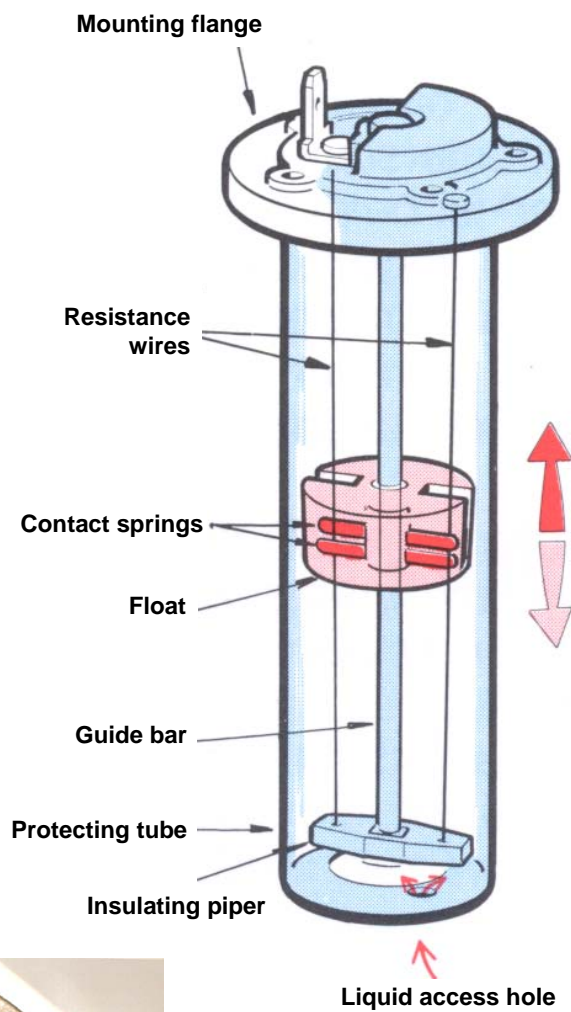
## 2. Product description

### Standard-Features:

- Resistance output
- Compatibility to VDO-gauges 301-010-00X, X10-110-981-009 (adjustable 60-90 ohm), VDO Viewline
- Electrical connection: Threaded stud M4 respectively spade connector
- Optional with ground connector
- Basically flange hole circle dia. 54mm

### Design of a Standard Tubular Level Sensor:

### Schematic Diagram:



## Table with 34 different lengths between 150mm and 800mm and the ohmic - values:

Order No.	Length $\pm 2$ [mm]	Full [ohm]	Empty [ohm]
224-011-000-015	150	4,5 $\pm$ 1,5	69 $\pm$ 2,5
224-011-000-016	160	4,5 $\pm$ 1,5	74 $\pm$ 2,5
224-011-000-017	170	4,5 $\pm$ 1,5	79,5 $\pm$ 2,5
224-011-000-018	180	3,0 $\pm$ 1,5	64 $\pm$ 2,5
224-011-000-019	190	3,0 $\pm$ 1,5	68 $\pm$ 2,5
224-011-000-020	200	2,5 $\pm$ 1,5	68 $\pm$ 2,5
224-011-000-021	210	3,0 $\pm$ 1,5	76 $\pm$ 2,5
224-011-000-022	220	3,0 $\pm$ 1,5	80 $\pm$ 2,5
224-011-000-023	230	3,0 $\pm$ 1,5	84 $\pm$ 2,5
224-011-000-024	240	2,5 $\pm$ 1,5	65,5 $\pm$ 2,5
224-011-000-025	250	2,5 $\pm$ 1,5	72 $\pm$ 2,5
224-011-000-026	260	2,5 $\pm$ 1,5	72 $\pm$ 2,5
224-011-000-027	270	2,5 $\pm$ 1,5	74,5 $\pm$ 2,5
224-011-000-028	280	2,5 $\pm$ 1,5	75,5 $\pm$ 2,5
224-011-000-029	290	2,5 $\pm$ 1,5	78 $\pm$ 2,5
224-011-000-030	300	2,5 $\pm$ 1,5	82,8 $\pm$ 2,5
224-011-000-031	310	2,5 $\pm$ 1,5	84 $\pm$ 2,5
224-011-000-032	320	2,5 $\pm$ 1,5	69,5 $\pm$ 2,5
224-011-000-033	330	2,5 $\pm$ 1,5	72 $\pm$ 2,5
224-011-000-034	340	2,5 $\pm$ 1,5	74 $\pm$ 2,5
224-011-000-035	350	2,5 $\pm$ 1,5	79,6 $\pm$ 2,5
224-011-000-036	360	2,5 $\pm$ 1,5	69 $\pm$ 2,5
224-011-000-037	370	2,5 $\pm$ 1,5	71 $\pm$ 2,5
224-011-000-038	380	2,5 $\pm$ 1,5	73 $\pm$ 2,5
224-011-000-039	390	2,5 $\pm$ 1,5	75 $\pm$ 2,5
224-011-000-040	400	2,5 $\pm$ 1,5	74,9 $\pm$ 2,5
224-011-000-045	450	2,5 $\pm$ 1,5	84,3 $\pm$ 2,5
224-011-000-050	500	2,5 $\pm$ 1,5	75,4 $\pm$ 2,5
224-011-000-055	550	2,5 $\pm$ 1,5	77,6 $\pm$ 2,5
224-011-000-060	600	2,5 $\pm$ 1,5	85,3 $\pm$ 2,5
224-011-000-065	650	2,5 $\pm$ 1,5	82,2 $\pm$ 2,5
224-011-000-070	700	2,0 $\pm$ 1,5	81,6 $\pm$ 2,5
224-011-000-075	750	2,0 $\pm$ 1,5	82 $\pm$ 2,5
224-011-000-080	800	2,0 $\pm$ 1,5	68,5 $\pm$ 2,5

### 3. Specifications (Technical Customer Documentation)

TU00-0772-0011101

The following tests have been accomplished:

- 1) Leak Tightness with Respect to Gas
- 2) Pressure Resistance
- 3) Aging in Mechanically Circulated Air without Load (Conditioning)
- 4) Temperature Cycle (with Specified Speed of Change)
- 5) Plug Resilience and Pull-out Strength
- 6) Resistance to Environmental Factors
- 7) Sealing against Dust and Water Spray
- 8) Humid Heat, Cyclic
- 9) Salt Spray Fog
- 10) Resistance to Chemical Agents
- 11) Vibration
- 12) Endurance Test