



Fuel Level Sensor

Optical Type



The AUTOFLUG Optical Fuel Level Sensor (OFLS) is a small sensor for installation inside fuel tanks. The sensor is designed for dedicated point level sensing (e.g. low or high level sensing) as well as for control of fuel transfer, refuelling and defuelling functions. Typical applications are helicopter and fixed wing aircraft fuel tanks.

Fuel Level Sensor Functionality

The AUTOFLUG Optical Fuel Level Sensor (OFLS) can be installed in fuel tanks attached to an AUTOFLUG Fuel Gauge Transmitter and can be positioned at a height as required along the outer tube of the Fuel Gauge Transmitter. The OFLS is designed to provide level warning signals electrically and functionally independent from the fuel quantity gauging.

The OFLS determines the presence or absence of fuel (liquid) at the sensor location. The measurement principle is based upon the change of refraction index of the medium surrounding the sensor.

Safety Provisions

The AUTOFLUG Fuel Gauge Transmitters with attached AUTOFLUG Optical Fuel Level Sensor(s) provide a total separation of fuel gauging and fuel level sensing functions, i.e. electronic hardware and interfaces are fully independent from each other.

Two redundant optical sensing elements per OFLS provide reliable level sensing information at an input supply current of approx. 10 mA, optionally equipped with an additional passive overcurrent limitation.

The OFLS provides a built-in hardware test for its internal for logic and driver function.

Customising

AUTOFLUG provides a wide range of Fuel Gauge Transmitters and Fuel Level Sensors. AUTOFLUG Fuel Sensors are based on company standardised components such as tubes, flanges, level sensors, electronics, cables and connectors.

Prototypes for new projects can be quickly built, tested, qualified and produced in series.

AUTOFLUG performs fuel tank studies based on customer supplied CAD data in order to define the required quantity and position of Fuel Sensors.

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Mechanical Interface

Mounting attached to a Fuel Gauge Transmitter
 Dimensions approx. 65 mm × 18.5 mm × 23 mm

Electrical Interface

Input Power 13 to 15 VDC
 Input Current 11 mA max.

I/O Signal

Level Sensor Output 13 to 15 VDC (High = High/Low Level Warning)
 Test Input 9 VDC (High = Test)

Temperature Range

Operational -40 °C to +71 °C
 Storage -55 °C to +85 °C

Applicable Fluids

NATO Code MIL Type F-40 MIL-DTL-5624, Grade JP-4
 F-34 MIL-DTL-83133E, Grade JP-8
 F-44 MIL-DTL-5624, Grade JP-5
 F-35 MIL-DTL-83133E
 F-37 MIL-DTL-83133E, Grade JP8+100
 F-54
 F-63
 JET-A/ JET-A1 ATSM D-1655
 Jet B AVTAG DERD 2486

Accuracy

repeatability ±1 mm
 hysteresis ±2 mm

Weight

50 g

Environmental Qualification

in accordance with MIL-STD-810

EMC/EMI Qualification

in accordance with MIL-STD-461

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