

LSM200

Mil-Spec UAV 2-Bolt Fuel & Oil Level Sensor

Introducing the LSM200, a robust capacitive liquid level sensor with a 2-bolt fixing for fuel and oil measurement in rugged defence UAV applications. Resistant to shock and extreme temperatures, this mil-spec instrument is custom-built up to 450mm long.

Developed for defence UAV platforms that require continuous, real-time liquid level measurement, the LSM200 is a high precision sensor designed to last. Featuring hard anodised aluminium construction, the vibration tolerant device benefits from its strength and lightweight properties offering a powerful IP68 rated liquid level sensor.

The integrated electronics are housed within the sensor head allowing for an extremely small footprint without the need for external CPU processing. Both the probe and electronics have a high operating temperature of -40°C to $+125^{\circ}\text{C}$, with -55°C to $+150^{\circ}\text{C}$ temperature variants available. The LSM200 is well-suited to all common automotive and UAV fuel and oil types including; Gasoline, AVGAS, JET-A, JP-4 and JP-8.

For ultimate dependability, this sensor has no moving parts that may deteriorate from wear. The continuous 100Hz measurement rate enables UAV operators to monitor the status of their tanks in detail allowing platforms to benefit from mission-ready capability for quick deployment and fly their aircraft further for longer.

Key Features

- Continuous, solid-state capacitive sensing technology
- Analog and CAN output options
- Extremely accurate; $\pm 1\%$ of reading ($\pm 0.5\%$ option available)
- Measurement accuracy unaffected by physical orientation of the sensor
- Accurate liquid level sensing over a wide temperature range -40°C to $+125^{\circ}\text{C}$ (-55°C to $+150^{\circ}\text{C}$ variants available)
- Mil-Std EMC Certified to 461F and RCTA DO160F
- IP68 rated
- Manufactured in the UK

Benefits

- Manufactured to length and calibrated in intended liquid for accuracy.
- 2 bar differential tank pressure ratings (up to 10 bar available).
- Insensitive to orientation allowing for convenient placement in fluid tanks.
- Compatible with a wide variety of dielectric fluids, including fuel, oil, water and coolants.
- Solid-state for minimal maintenance.
- Full customisation available to suit specialist applications.

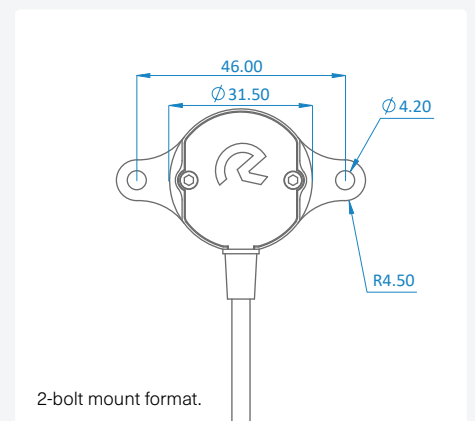


Lightweight, durable construction with IP68 rating.



Sealed integrated electronics for harsh applications.

Example Sensor Dimensions



2-bolt mount format.

EMC Approvals

MIL STD 461F Army Ground Limits:
CS114, CS115, CS116, RE102, RS103, RS101, CE102, CS101

RTCA DO160F: Section 25 ESD Cat. A



Mil-Std EMC Certified



Vibration Tolerant



Integrated Electronics



Ingress Protection up to IP68K



Insensitive to Orientation



Lightweight Construction



Solid-State Technology

Output

Analog	0 – 5VDC (Configurable)
CAN	2.0A with 11bit identifier with configurable base ID
Output Resolution	10bit
Sample Rate	100Hz
Accuracy	±1% of full scale @20°C ±0.5% of full scale @20°C (option)

Electrical

Supply Voltage	+6VDC – 30VDC 5VDC +/- 0.1VDC Unregulated
Supply Current	<20mA Nominal @ 12VDC

Calibration

Fluid Compatibility	All common fuels, oils, coolants, water and blends.
Fluid Calibration	Fluid specific, on board storage of multiple fluids available.
Dry Calibration	Up to 10 point calibration across temperature

Mechanical

Probe Length	80 – 700mm
Mounting Options	1 bolt, 2 bolt, 3 bolt, 5 bolt SAE, AN-8 and AN-10 Threaded
Sealing	Radial O-ring / Dowty seal

Environmental

Environmental Protection	IP67
Vibration	Designed to meet: 10Hz to 2000Hz sine sweep @10G (24hrs per each axis)
Shock	Designed to meet: 50G half sine wave for 11ms, 10 times each axis
Pressure Rating	2 bar (10 bar option)
Operating Temperature Range	-40°C to +125°C -40°C to +150°C (Option)

Wiring Definition

Description	Wire Colour	PIN Out
Supply (+)	● Red	A
Ground (GND)	● Black	B
Signal	● Yellow	C
Tx Comms (Transmit)	○ White	D
Rx Comms (Receive)	● Green	E

Configuration Interface

Type	RS-232 via FTDI USB cable. See Accessories.
GUI	Available on request

Specifications may be subject to change without prior notice.

Custom Sensors

Reventec specialises in unusual sensor requirements and can adapt existing designs to fit your specific application.

- ✓ Remote electronics for high temperature environments
- ✓ Micro sensors
- ✓ Mil-spec certified

