

## LSM800

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

The LSM800 is a robust capacitive fuel and oil level sensor developed for defence and security UAV platforms. The lightweight, compact design utilises an AN-8 threaded mount for a small footprint and the sensor length is available custom-built up to 450mm.

Constructed from anodised aluminium, the solid-state sensor has no moving parts making the device ideal for use in UAVs where stability and precision are key considerations. The LSM800 delivers a continuous 100Hz measurement of vital fluid levels allowing UAVs to fly further for longer.

Boasting an ingress protection rating of IP68 and a 2 bar differential tank pressure rating, the instrument is extremely vibration tolerant and shock resistant allowing the device to maintain high measurement accuracies of  $\pm 1\%$  of reading ( $\pm 0.5\%$  accuracy variants available) without compromise.

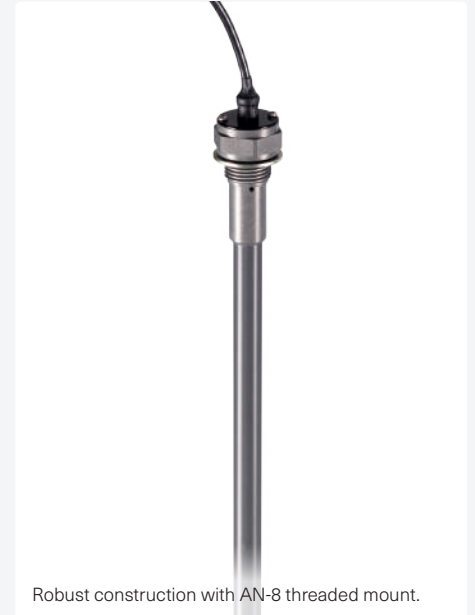
The LSM800 has integrated electronics housed within the sensor head, allowing for analog 0-5V, CAN or analog and CAN outputs without the need for external CPU processing. Both the electronics and the entire sensor has an operating temperature rating of  $40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  ( $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  variant available). Certification to MIL STD 461F and RCTA DO160F available.

### Key Features

- Continuous, solid-state capacitive sensing technology
- Analog 0-5V and CAN output options
- Advanced accuracies of  $\pm 1\%$  of reading ( $\pm 0.5\%$  accuracy variants available)
- $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  operating temperature range ( $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  option)
- Mil-Std EMC Certified to 461F and RCTA DO160F
- IP68 rated
- 2 bar differential tank pressure ratings (up to 10 bar available)
- AN-8 threaded mounting
- Manufactured in the UK

### Benefits

- Insensitive to orientation allowing for convenient placement in fluid tanks.
- Solid-state for minimal maintenance.
- Manufactured to length and calibrated in intended liquid for accuracy.
- Capacitive technology delivers accurate level measurement despite sloshing.
- Full customisation available to suit specialist applications.
- Compatible with a wide variety of dielectric fluids, including fuel, oil, water and coolants.

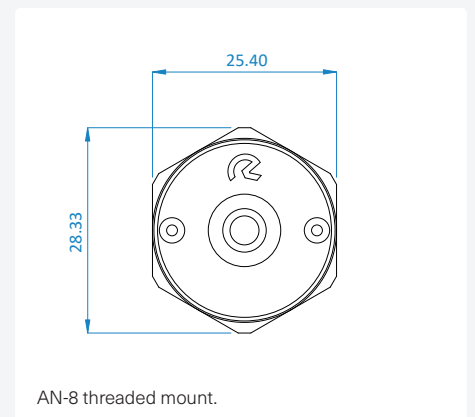


Robust construction with AN-8 threaded mount.



Sealed integrated electronics.

### Example Sensor Dimensions



AN-8 threaded mount.

### 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 IP69K



Insensitive to Orientation



Lightweight Construction



Solid-State Technology

## Output

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

## Electrical

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

## Calibration

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

## Mechanical

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

## Environmental

<b>Environmental Protection</b>	IP68
<b>Vibration</b>	Designed to meet: 10Hz to 2000Hz sine sweep @10G (24hrs per each axis)
<b>Shock</b>	Designed to meet: 50G half sine wave for 11ms, 10 times each axis
<b>Pressure Rating</b>	2 bar (10 bar option)
<b>Operating Temperature Range</b>	-40°C to +125°C (-55°C to +150°C variant available)

## Wiring Definition

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

## Configuration Interface

<b>Type</b>	RS-232 via FTDI USB cable. See Accessories.
<b>GUI</b>	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

