

## LSM200-IP69K

### Mil-Spec UAV 2-Bolt Coolant Level Sensor

The LSM200-IP69K is a rugged coolant level sensor engineered specifically for defence UAV platforms. Designed to last, the sensor is constructed from hard anodised aluminium and is IP69K rated to protect against dust ingress, high temperatures and high pressure liquids.

Leveraging the latest advancements in capacitive sensing, the LSM200-IP69K utilises technology proven in established UAV and airframe platforms. The LSM200-IP69K offers continuous powerful fluid monitoring with accuracies of  $\pm 1\%$  of reading ( $\pm 0.5\%$  accuracy variants available) in a compact, lightweight device with sturdy 2-bolt mounting fixing. Reliable, real-time readings allow operators to optimise their mission with continuous fluid level measurement for serious range extension allowing UAV manufacturers to fly further for longer.

Integrated electronics encased within the sensor head deliver analog, CAN or analog and CAN outputs without the need for external CPU processing. Both the probe and electronics have a high operating temperature of  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ , with  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  temperature variants available. With superior dependability in the most extreme conditions, the LSM200-IP69K is shock resistant, vibration tolerant and has a 2 bar differential tank pressure rating (up to 10 bar pressure ratings are 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)
- MIL-DTL-38999 connector
- 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 common automotive and UAV fuel, oil, water and coolants. including; Gasoline, AVGAS, JET-A, JP-4, JP-8 and 50/50 Glycol.

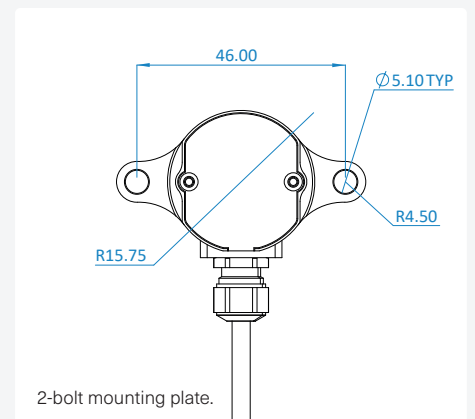


Rugged IP69K rated construction.



Sealed integrated electronics.

### Example Sensor Dimensions



2-bolt mounting plate.

### 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

