

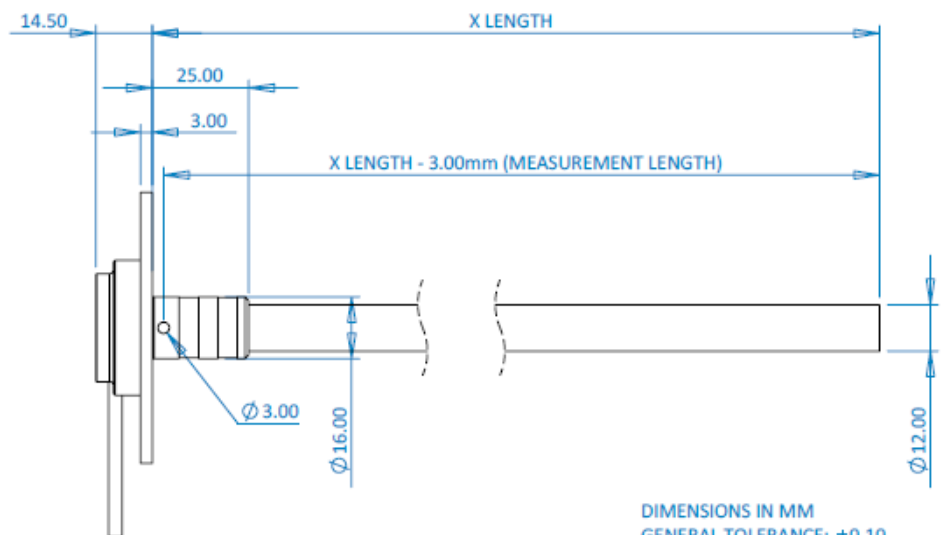
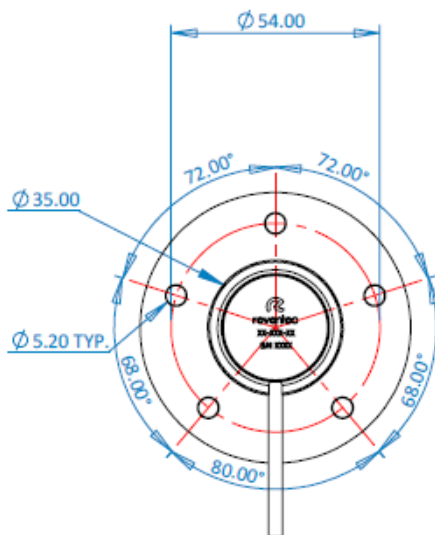
EcoSense™ Series

ECO-SAE Low Cost Capacitive Level Sensor



The EcoSense series is a next-generation solid-state capacitive sensor, capable of continuous fluid level measurement in all common fuel and oil grades. The sensor is modular in design, and can be suited to fit any oil tank or fuel bladder with the addition of a stock or custom mounting adapter.

- Solid-state, continuous liquid level sensing
- Low cost
- $\pm 2\%$ of full scale accuracy
- No measurement dead-band
- Designed and tested for long-term reliability in harsh environments
- FIA homologation certified
- Multiple mounting arrangements available



DIMENSIONS IN MM
GENERAL TOLERANCE: ± 0.10

Level Measurement

| | |
|-------------------------|---|
| Accuracy | ±2% of full scale @20°C |
| Measurement Rate | 100Hz |
| Calibration | Fluid specific; on-board storage of up to 24 fluid calibrations |

Electrical

| | |
|------------------------------------|--------------------|
| Supply Voltage | +6VDC to +31VDC |
| Typical Operating Current | <10mA at +12VDC |
| Overvoltage Protection | +45 VDC continuous |
| Reverse Polarity Protection | -45 VDC continuous |

Signal Output

| | |
|-----------------------------|---|
| Type | Voltage |
| Typical Output range | 0.25 VDC: Empty (Dry) 4.75 VDC: Full (Wet) Fully Configurable across 0-5VDC |
| Resolution | 10 bit |

Environmental

| | |
|------------------------------------|---|
| Environmental protection | IP67 |
| Pressure Rating | 2 bar (Differential) |
| Vibration | Designed to meet: 10Hz to 2000Hz sine sweep @10Grms (24hrs per each axis) |
| Shock | Designed to meet: 50G half sine wave for 11ms, 10 times each axis |
| EMC | Designed to meet: MIL461F- CE102, CS101, CS114, RE102, RS103, CS115, CS116 DO 160- Section 20 Cat R, Section 25 Cat A |
| Probe Operating Temperature | -40°C to +125°C |

Mechanical

| | |
|------------------------------|---|
| Fluid Compatibility | All common fuels, oils and engine coolants (Gasoline, Diesel, Biofuels, Hydraulic Oils, Synthetic Ester Oils, Glycol based coolants, salt water, de-ionised water etc.) |
| Construction Material | Anodised Aluminium, PEEK, PTFE |
| Sealing Elastomers | Fluorocarbon |
| Mass | 135g for 340mm sensor including 1m of cable |
| Sealing Gasket | Supplied per sensor (Flurocarbon) |

Wiring Specification

| | |
|-------------------------|--------------------------------|
| Flying Leads | 1 Meter supplied as standard |
| Jacket Elastomer | FEP Black |
| Wire Type | -5 core, FEP Insulated, 24 AWG |

Wiring Definition / Connector

| Description | Wire Colour |
|----------------------------|-------------|
| Supply (+) | Red |
| Ground (GND) | Black |
| Signal | Yellow |
| Tx Comms (Transmit) | White |
| Rx Comms (Receive) | Green |

Configuration Interface

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

Accessories

| | |
|------------------------------|----------------|
| USB calibration cable | P/N: 07-003-01 |
|------------------------------|----------------|

Specifications may be subject to change without prior notice