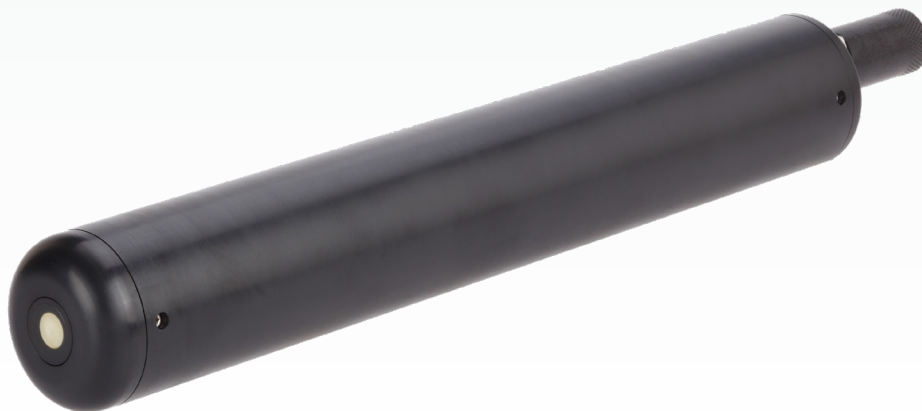


LISST-ABS

SUBMERSIBLE ACOUSTIC BACKSCATTER SENSOR

- **Suspended Sediment Concentration**
 - **Total Suspended Solids**
 - **Calibrated for Life**
 - **Fouling Tolerant**
 - **Low-Cost**

The LISST-ABS is a low-cost acoustic backscatter sensor designed specifically for measuring suspended sediment concentration. It is designed for fixed-point measurements and operates at 8 MHz. At this frequency, acoustic has a nearly flat response to particles in the size range 30 μm to $\sim 400 \mu\text{m}$. As a result, the LISST-ABS maintains calibration within $\pm 30 \%$. This compares with optical turbidity sensors that maintains calibration within $\pm 400 \%$ over the same size range.



FEATURES

- Calibrated for life from factory
- Outputs concentration in analog, SDI-12 and RS232 formats on the underwater connector
- Integrates with any datalogger that can provide power and accept analog, SDI-12 or RS232 signals
- Installs on fixed structures, profiling packages and underwater vehicles or tow bodies (minimum 15 cm from solid boundaries)

SPECIFICATIONS subject to change without notice

Parameters Measured

- Suspended Sediment Concentration (point measurement)

Concentration Range

- (1 to 30,000) mg·L⁻¹ for 7 µm silt
- < 20,000 mg·L⁻¹ for 200 µm sand

Mechanical and Electrical

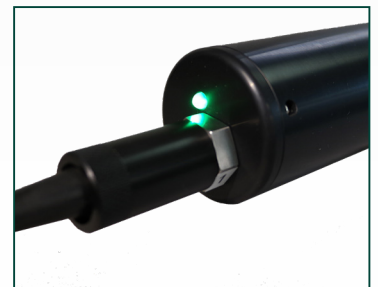
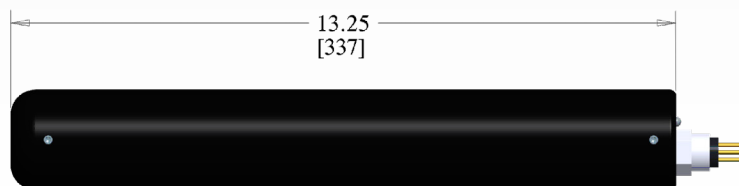
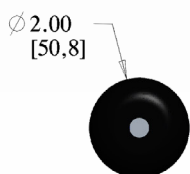
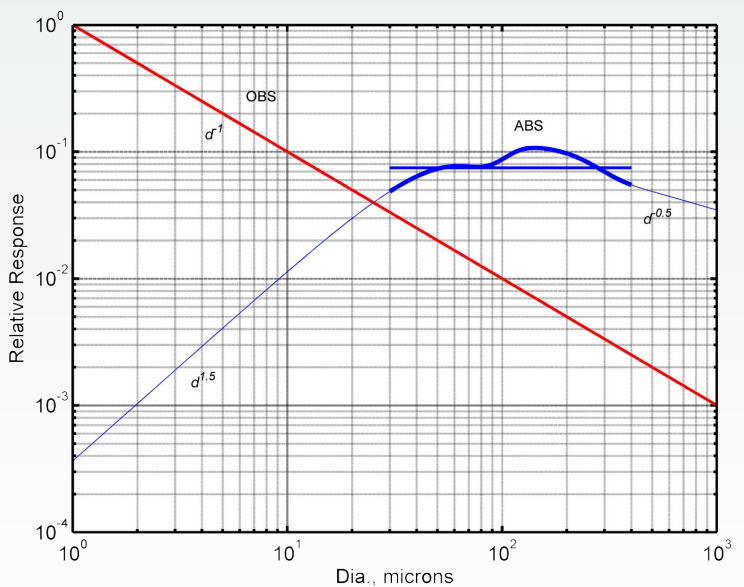
- Dimensions: [Ø × L] 5.08 cm × 33.65 cm (2" × 13.25")
- Weight (air): 0.5 kg (1 lbs)
- Weight (water): 0.22 kg (0.5 lbs) buoyant in water
- Power supply voltage: 11 VDC - 18 VDC
- Current draw: 100 mA
- Depth rating: 100 m
- 10 mm Ø ceramic transducer
- Sample rate 1 Hz (average of 1000 measurements)
- Sample volume: [Ø × L] 10 mm × 15 mm approximately, 55 mm from the transducer
- Impulse MCBH-8-MP SS endcap connector
- ABS plastic housing



Photo and original concept courtesy of Shawn Hintz, Gravity Consulting, Inc.

Above: LISST-ABS mounted to a streamlined depressor wing that allows it to be towed at speeds in excess of 5 knots.

Right: The relative responsivity of optical turbidity meters contrasted with the LISST-ABS acoustic backscatter sensor.



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