

Acoustic Backscatter Sensor

AQUAscat® ABS | Instrument formerly known as LISST-ABS. Technology licenced by Sequoia Scientific, Ltd.

The AQUAscat® ABS is a low-cost acoustic backscatter sensor designed specifically for measuring suspended sediment concentration. It's 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 ~400 µm. As a result, the AQUAscat® ABS maintains calibration within ±30 %. This compares with optical turbidity sensors that maintains calibration within 400% over the same size range.



KEY FEATURES

- Suspended Sediment Concentration
- Total Suspended Solids
- Fouling Tolerant
- Low-Cost
- 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)
- Factory calibrated concentration performed with 75 µm to 90 µm glass beads

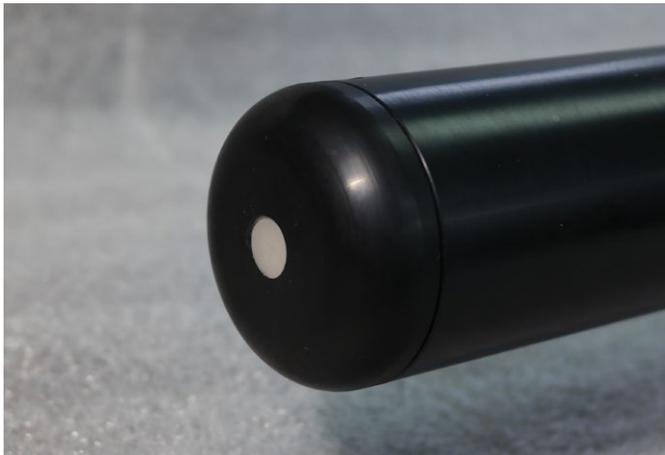
TECHNICAL SPECIFICATIONS

Sensing frequency	8 MHz
Sample volume	[Ø x L] 10 mm x 15 mm, located ~55 mm in front of sensor
Resolution	0.5 % of reading
Outputs	0-4 V analog (logarithmic, 0.5 V/decade covering 100 g/L)
	SDI-12
	RS-232
Range	1 mg·L ⁻¹ to 30 g·L ⁻¹ (7 µm silt) or < 20 g·L ⁻¹ (200 µm sand)*
Sample rate	1 Hz (average of 1000 measurements)
Suspended sediment concentration accuracy	+/-30 % for particles 30 µm to 400 µm

* There is no equivalent to NTU or turbidity units for AQUAscat® ABS

MECHANICAL AND ELECTRICAL SPECIFICATIONS

Dimensions	[Ø x L] 5.08 cm x 33.65 cm (2" x 13.25")
Weight	In air: 0.5 kg (1 lbs)
	In water: 0.22 kg (0.5 lbs) - Buoyant in water
Power supply	9 VDC to 18 VDC
Current draw	50 mA max (for s/n 6232 and lower, current is 110 mA max)
Depth rating	100 m
Transducer	10 mm Ø ceramic
Housing	ABS plastic
Temperature range	0 °C to 30 °C - not recommended for use in water bodies that freeze
Connector	Subconn MCBH8M (s/n 6233 and lower Impulse MCBH-8-MP)



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