

LISST-200X

SUBMERSIBLE PARTICLE SIZE ANALYZER

Particle Size Distribution • Volume Concentration Beam Attenuation • VSF

The LISST-200X is Sequoia's workhorse. It is a self-contained submersible laser-diffraction based particle size analyzer, designed for measuring suspended particle size and concentration in the aquatic environment - oceans, rivers, lakes, streams. A fast response temperature sensor and a high-resolution depth sensor makes it suitable for profiling or towing. With Sequoia's optional BioBlock accessory it can be deployed for months on moorings or landers for long-term studies. For the system integrator, the LISST-200X can power and accept inputs from up to three external analog sensors. The LISST-200X is typically used for sediment, (harmful) algae, oil-spill, ocean optics, visibility, dredging, aquaculture, environmental and laboratory applications.



FEATURES

- Small angle forward scattering laser diffraction technology
- Measures particle size, concentration, beam attenuation, VSF, depth, temperature
- Self-contained with internal programmable datalogger for autonomous data collection
- Externally powered; short- and long-term deployment battery packs included
- USB connection to PC for programming, offloading and real-time size distribution displays
- Integrated depth and fast response temperature sensors
- Power and integrate up to three external analog sensors
- Analog output of mean particle size and total volume concentration for CTD integration
- Real-time output of complete Particle Size Distribution (s/n 2131 and higher)
- Wide range of accessories available

SPECIFICATIONS subject to change without notice

Parameters Measured

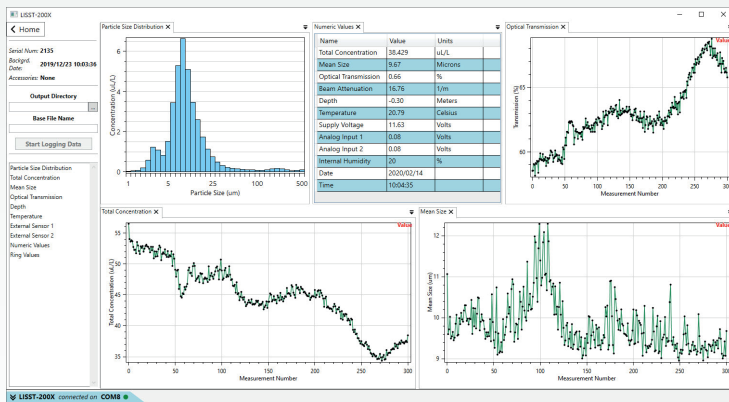
- Particle Size Distribution (1 μm to 500 μm in 36 size ranges)
- Depth (600 m max depth @ 0.01 m resolution)
- Temperature (- 5 $^{\circ}\text{C}$ to 45 $^{\circ}\text{C}$ @ 0.01 $^{\circ}\text{C}$ resolution; response time 2.5 s)
- Optical transmission (0.3 to 0.99 [30 % to 99 % @ 0.1 % resolution])
- Volume Concentration @ 0.1 $\mu\text{L}\cdot\text{L}^{-1}$ resolution; range strongly particle-size dependent
- Volume Scattering Function (0.039 $^{\circ}$ to 13.8 $^{\circ}$ in water at 36 angles)

Technology

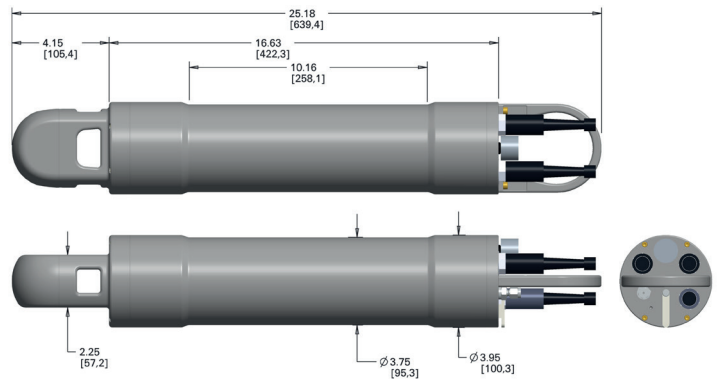
- Small-angle forward laser scattering
- 32-ring custom photodiode Ring Detector + 4 large angle detectors
- 25 mm optical path
- 670 nm laser diode

Mechanical and Electrical

- Dimensions [$\varnothing \times \text{L}$]: 10.03 cm \times 63.9 cm (3.95" \times 25.2")
- Weight [air / water]: 5.4 kg / 1.7 kg (11.8 lbs / 3.8 lbs)
- Depth rating: 600 m
- External power input: 12 VDC nominal, 9 VDC to 24 VDC
- Current drain at 12 V: 75 mA Sampling
- Sampling rate: Up to 1 Hz
- Data storage: 1 GB (~12,000,000 measurements; ~140 days @ 1 Hz)
- SubConn MCBH3M, MCBH5M and MCBH6M connectors



LISST-200X software screenshot



LISST-200X dimensions



LISST-200X connector endcap



LISST-200X with BioBlock antifouling accessory installed

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