

LISST-OST

OPTICAL SEDIMENT TRAP

Diffuse Attenuation • Sinking POC Flux • Particle Flux

The LISST-OST is designed for integration onto ARGO and other robotic and autonomous profiling floats. The sensor monitors sinking particles by measuring changes in diffuse attenuation as particles settle onto a large collection window and accumulate over time. Changes in the measured attenuation can be correlated with particle flux and used as a proxy for particulate organic carbon (POC) flux. Although designed for Lagrangian floats to perform measurements when parked at 2,000 meters, the LISST-OST can also be mounted on fixed platforms for long-term deployments with an optional wiper accessory to help mitigate biofouling.



FEATURES

- Measures diffuse optical transmission
- Off-axis optical geometry to reduce interference with settling particles
- Large optical beam cross section (approximately 5 cm at the receive window)
- Ambient light rejection through light modulation and synchronous detection
- Externally powered
- RS-232 real-time output
- Onboard temperature compensation
- Optional wiper accessory available for long-term deployments with depth rating of 30 m (standard) or 100 m (extended); ONLY recommended for use in Eulerian mode, NEVER in Lagrangian mode
- Optional data logger available: NexSens X3 (IP68 rated) or NexSens X3-SUB (depth rated to 61 m)
- Software included with the instrument for transmission measurements; does not include interpretations of attenuation flux or relationships to POC flux, which must be established by the user
- Custom cable lengths available

SPECIFICATIONS (subject to change without notice)

Parameters Measured

- Diffuse optical transmission at 16-bit resolution
- Diffuse attenuation

Technology

- Source wavelength: ~650 nm (Red) LED
- Large-aperture sapphire receive window

Mechanical and Electrical

- Dimensions [H x D x W]: 50.5 cm x 21.3 cm x 13.3 cm (19.90" x 8.38" x 5.25")
- Weight [air / water]: 4 kg / 1.2 kg (8.8 lbs / 2.6 lbs)
- Depth rating: 2,000 m
- Sampling rate: 1 Hz
- Temperature (operating): -3 °C to 40 °C
- Temperature (storage): -20 °C to 60 °C
- Material: black anodized aluminum w/sacrificial anode protection
- External power input: 7 VDC to 25 VDC
- Current drain @ 12V: 42 mA average during sampling
- Connectors: SubConn MCBH8M, MCBH3M

