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HydroScat-2 Backscattering Sensor - Fluorometer

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Mechanical

- Diameter: 11.7 cm (4.6")
- Length: 23cm (9.1") excluding connector
- Weight: 4.0 kg dry, 1.5 kg submerged

Optical

- Standard wavelengths: 420, 700 nm (2 channels elastic [backscattering](#) and 1 channel [fluorescence](#))
- Available wavelengths: 420, 442, 470, 488, 510, 532, 550, 590, 620, 676, 700, 852 nm
- Spectral Bandwidth: 10 nm (20 nm for 676, 40 nm for 700)
- Nominal Backscattering Angle: 140°
- Noise in b_b : depending on wavelength, 2×10^{-5} to $2 \times 10^{-4} \text{ m}^{-1}$ RMS (dark noise at 1 sample/s)
- Offset uncertainty of b_b : depending on wavelength, 5×10^{-5} to $5 \times 10^{-4} \text{ m}^{-1}$

Electrical

- Internal rechargeable batteries provide up to 20 hours continuous operation
- Optional external power supply: 10V to 15V, 1.0W typical
- Power/Data Connector: Subconn MCBH8M; Mate MCIL8F
- Pin Assignments:
 - Pin 1: External supply voltage (10-15V)
 - Pin 2: Common
 - Pin 3: RS232 Receive
 - Pin 4: RS232 Transmit
 - Pin 5: Battery charge voltage (18-24V)
 - Pin 6: Shutter control (optional)
 - Pin 7: Shutter control (optional)
 - Pin 8: Battery Disable (not connected on older units)



- Data Interface: RS232 (RS485 optional), 9600 to 57600 baud

Environmental

- Operating Temperature: 0 to 35 C
- Maximum Depth: 330 m (500 m and 4,000 m options available)

Data Logging

- Standard memory stores 14,000 samples of optical channels and depth ([optional](#) flash memory adds non-volatile storage of *millions* of samples).
- Variable, programmable sampling rates.
- Max sampling rate 10 Hz.
- Continuous or burst-mode sampling controlled by real-time clock or manual switch.

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