SediMeter™ SM4 kit

The kit contains an SM4 instrument and accessories.

Contents

SediMeter SM4 instrument, storage case, handle, anchor and holder tube, 1.8 m cable, software, magnet for reset, and connector grease. The software supports setup, data download, data analysis, real-time monitoring, and alarms including automatic e-mails for erosion, sedimentation, and elevated turbidity.

Applications

• Measure changes in bed level, sedimentation, erosion
• Measure near-bed turbidity, light, fluorescence
• Measure vibrations, do conditions-based monitoring
• Monitor bedload and suspended load sediment transport
• Studies of sedimentary processes and anoxic sediments

Specifications

Case Dimensions	107x38x14 cm (42x15x5.5")
Shipping Weight, typical	5.5 kg (12 lbs)

ABOUT THE SENSORS

SediMeter

The SediMeter sensor is identical to the one in SM3, and also features both straight and oblique backscatter measurements, in 36+35 levels.

Nephelometric Turbidy, Fluorescence, Light Meters

To improve the turbidity accuracy at levels below 400 FTU, SM4 models are also equipped with nephelometric turbidimeters, mounted in a section of the instrument that remains free of the holder tube. These components are mounted adjacent to one another to measure in the same location: NIR turbidimeter, white light turbidimeter, UVA fluorescence meter, and a light meter. The last three all measure using the same white light photodetector, which has a spectral sensitivity similar to the human eye. Two UVA LEDs protect the window area from fouling.

Accelerometer

A 3D accelerometer constantly measures at 10 Hz. Every measurement, the last 20 or 30 values are stored. It is used to calculate tilt, thus confirming that the instrument has not fallen over. It also informs on vibrations, and even seismic events may be captured. Strong currents make the instrument vibrate, why the accelerometer also informs on the energy level in the water.

CONDITIONS-BASED MONITORING (CBM)

How do you capture the largest magnitude events without filling the memory in no time? CBM is the answer. The accelerometer is always measuring, and if it detects an event larger than the pre-set threshold, it sets a flag to the CPU. Within 1 second the CPU will take an extra measurement, and increase the threshold by a small amount. This guarantees to capture the largest magnitude event without running out of memory. The initial threshold is set in calibration. CBM is only active when the instrument is mounted.

Handle

Holder

Anchor

Cable

SM4
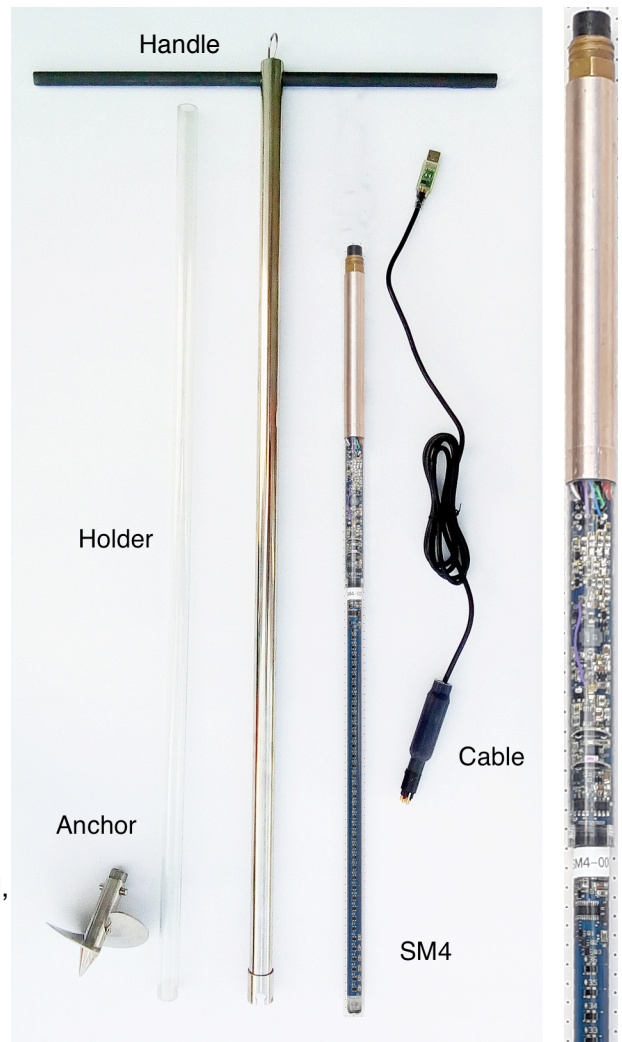
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One year warranty. Specifications subject to change without prior notice.