SediMeter™ Network

Networking of SediMeter™ instruments for real-time monitoring of sediment spill and siltation.

Network Components

The core is of course the SediMeter™ sensors. They measure near-bed turbidity and sediment accumulation on the bottom—the two facets of siltation. It is necessary to measure both, since sediment pollution can harm both when suspended in the water near the bottom, and when deposited on the bottom. The SediMeter™ is available with and without a built-in sensor cleaner. In most monitoring projects the simpler model will suffice.

The instruments have under-water pluggable connectors, so cables can be hooked up after installation if so desired. The network can consist of a daisy-chain of instruments along an RS485 cable, of individual instruments connected by a cable to a buoy with a SediLink™ radio modem, or a combination of the two. The radio works in transparent mode, simply replacing a length of cable. It is also possible for the radios to act as routers, thus extending the effective range of radio communication to beyond that of the individual radio.

Software

The free SediMeter.exe software supports network monitoring, and independent alarms for turbidity, sedimentation, and erosion. It can send an e-mail in case of alarm, apart from setting off an alarm tone. Optionally, the software can create real-time maps of the siltation situation, and feed a web-server.

Deployment

There are several possibilities for how to deploy, mount, and connect the SediMeter™ on the bottom. The choice will depend on local geological conditions, limitations imposed by the work schedule, timing, weather, etc. The connector on the SediMeter™ can be either in the top or the bottom; the first works well with a platform and buoy deployed from the surface with a radio modem, while the latter can be used with a more permanent installation of a buried cable and an instrument with built-in cleaner. We have a special anchor with built-in connector, that is deployed using a water jet to blow it down into the bottom with cable attached.

System Integration in Industry

It is possible to integrate SediMeter sensors in customized systems such as for industrial monitoring of liquid and or solid levels. The software is developed in LabVIEW and RS485 is an industry standard.

Specifications subject to change without prior notice.



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