

DATASHEET

AQUAscat[®] 1000S

Suspended sediment profiler



Suspended sediment in the field - to 1000m

IDEAL FOR SEDIMENT RESEARCH AND SURVEYS

KEY FEATURES

- Uses acoustic backscatter method
- 4 different frequencies
- Fixed transducers for repeat deployments

APPLICATIONS

- Sediment transport studies
- Dredge plume monitoring

SPECIFICATION

| | |
|------------------------|---|
| Sediment range | Sensitive to a wide range of grain sizes Size inversion typically feasible for 20 µm to 500 µm radius Typically 0.01 g/l to 20 g/l over 1 m, or more over shorter range |
| Frequencies | 4 frequencies - 500 kHz, 1MHz, 2MHz, 4MHz |
| Transducers | Ø10-25mm ceramic discs (beam width according to frequency) |
| Transducer arrangement | 4 fixed transducers |
| Gain | Software controlled transmitter and receiver gain adjustment |
| Range | 150 cm (typical), up to 10 m at frequencies below 2MHz depending on options. |
| Transmitted signal | 1 W rms typical transmit CW pulse, pulse length to match cell size. |
| Transmission rate | 128 Hz max pulse rate for each frequency (i.e. 512 pulses per second for four), subject to acoustic range limits. Minimum rate 1 Hz for calibration. |
| Data averaging | Cell ensembles averaged over time by powers of 2 up to 64 before storage |
| Range cells | 256 cells, 10 mm standard (at 1500 m/s speed of sound). Options for 2.5 mm, 5 mm, 20 mm and 40 mm. Start/end range set by software |
| Burst duration | Defined by number of profiles requested. |
| Burst trigger | Either external hardware trigger when required or internal software trigger at regular intervals |
| Burst interval | Internally generated from once every minute to once every 255 minutes, user definable start time of first burst. |
| Trigger output | A digital output allows triggering of external instruments |
| Power requirement | 8 V to 24 V dc. Typically 1 W when logging, and with standby of typically 1 mW when not logging. |
| Battery packs | Internal alkaline battery pack gives up to 10 days typical deployment. External battery packs available according to deployment needs. |
| Additional sensors | Built-in temperature and pressure, optional turbidity |
| Disk storage | Compact Flash (proprietary format). 4 GB standard, option for 8GB. |
| Data comms | RS232 up to 115 kbaud; USB 1.1 typically 2-3 Mbaud |
| Housing options | 1000m rated aluminium alloy housing. Greater depths available as custom instruments. |

Contact us

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