

Acoustic Digital Current Meter

Description



The OTT ADC (Portable Acoustic Digital Current Meter) is designed for point velocity measurements in natural streams, rivers, creeks and open channels. Using the latest acoustic measuring principles and combined with a high end signal processor the instrument provides accurate and reliable data.

The instrument is equipped with a built-in pressure sensor that provides automatic depth readings for the determination of both individual vertical depths and prompting the user to set the correct sensor position.

The instrument easily attaches to different types of wading rods and features an automatic discharge computation based on the internationally recognized ISO and USGS standards.

Advantages

- Automatic discharge calculation based on international standards (EN ISO 748, USGS standards)
- OTT QReview software with open data export interface via ASCII and XML (e.g. to BIBER and SoftwareQ)
- Built in pressure sensor for automatic measurement of sensor immersion and vertical depth
- Variable sensor to display cable lengths (2,5 / 6 or 10 m)
- Power supplied from a rechargeable battery pack providing more than 20 hours user operation



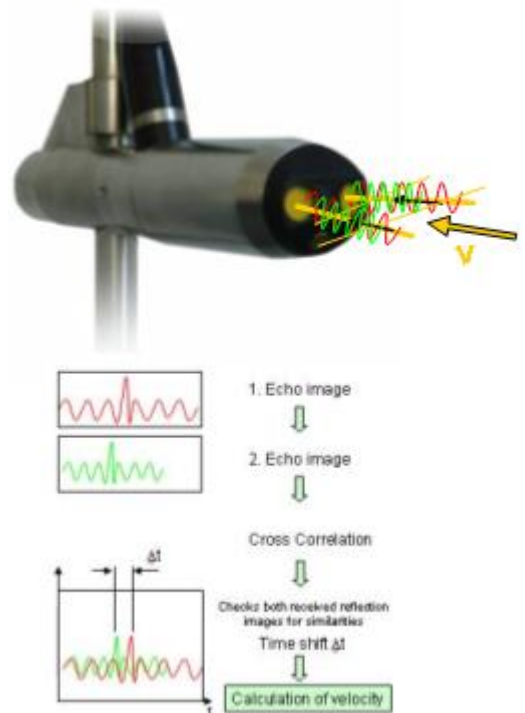
Measuring principle

The ADC emits an ultrasonic burst consisting of ten single pings that will be reflected by suspended particles in the water body (e.g. suspended material, plankton, air bubbles).

Depending on particle size and shape an echo image returns and is processed in the systems DSP (Digital Signal Processor).

After a short interval the instrument emits a second burst and a second echo image will be digitised.

Following the measurement phase the DSP checks both received reflection images for similarities using a cross correlation method. Rejecting all signal differences this method retains two similar images with a time shift which is then used to calculate the water velocity.



Examples of use

The OTT ADC is designed for point velocity measurements in

- natural streams
- rivers
- creeks
- open channels
- irrigation channels and canals
- at weirs and flumes



The following internationally recognized measurement methods are used in the OTT ADC

- ISO, USGS
- 2 point KREPS
- Ice, single and two points
- Multipoints

Designed for the use on wading rods and relocation devices the OTT ADC combines the traditional workflow of section by section method with state-of-the-art technology for real time measurements.