

Eco Current Profiler



Shallow-water current profiles in a groundbreaking new package.
Appropriate for first-time ADCP users, small budgets or educational use.

The Eco current profiler is the first ADCP right-sized and designed specifically for shallow-water measurements. It allows you to measure water velocities *in situ*, through the water column using the same acoustic Doppler technology as other Nortek instruments, but in a more affordable and easy-to-use package. Simple buoy and bottom-mount solutions are available and designed to fit Eco off-the-shelf. Eco is portable enough to be put in the water from a paddle board or kayak by one person. While the Eco does not feature many of the more complex capabilities of other Nortek instruments, such as wave measurements, turbulence estimation, or echosounder data, Eco *does* present a host of new, unique capabilities.

Eco Current Profiler



Highlights

- ✓ Self-configuring data collection in various depths and water types
- ✓ Seamless current profiles from 30cm to 20m from the instrument
- ✓ Built-in battery and inductive battery charger. No cables or connectors!
- ✓ Integrated deployment and recovery system available
- ✓ Built-in GNSS, temperature, pressure and tilt sensors
- ✓ Build your instant proposal in the Eco Webshop to submit to purchasing or buy online
- ✓ Automated data processing to ensure quality data reports with no prior ADCP experience
- ✓ Weighs only 1 kg in air and is only 13 cm tall

Applications

- ✓ Estuarine studies
- ✓ Sediment transport studies
- ✓ Studies of tidal currents
- ✓ Coral reef studies
- ✓ Educational use

Technical specifications

→ Water velocity measurements

Maximum profiling range	20 m
Cell size	Self-configured (profiling range 0.3-20 m)
Minimum blanking	0.1 m
Maximum number of cells	3
Accuracy	±1% of measured value ±0.5 cm/s
Maximum sampling rate (output)	2, 4, 5, 6, 8 10, 20, 30 or 60 minutes
Velocity range (horizontal)	±5 m/s

→ Echo intensity (along slanted beams)

Sampling	N/A
Transducer acoustic frequency	1 MHz
Number of beams	3
Beam width	3.4°

→ Wave Measurement option

Type	N/A
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→ Sensors

Temperature	Thermistor in head
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. time response	2 min
Compass	Solid-state magnetometer
Accuracy/resolution	3° for tilt < 30°/0.01°
Tilt	Solid-state accelerometer
Accuracy/resolution	0.2° for tilt < 30°/0.01°
Maximum tilt	30°
Up or Down	Up-looking only
Pressure	Piezoresistive
Range	50 m

Eco Current Profiler

→ Sensors

Accuracy/precision 0.5% FS / 0.005% of full scale

Position embedded GNSS receiver

Accuracy 3 m

→ Analog inputs

No. of channels N/A

→ Data recording

Capacity 16 GB (>5 yrs back-to-back monthly deployments without formatting)

→ Real-time clock

Accuracy ± 2 min/year

→ Data communications

I/O Bluetooth Low Energy (BLE)

User control Smart device and PC App with secure cloud storage Eco account

→ Connectors

Bulkhead None

Cable None

→ Software

Functions Deployment planning, instrument configuration, data retrieval, secure cloud storage, automatic data processing, automatic report generation, deployment position mapping with embedded GNSS.

→ Power

DC input N/A

→ Batteries

Battery capacity 70 Wh rechargeable smart Li-ion charged by induction

→ Environmental

Operating temperature -5 to +40 °C

Storage temperature -20 to +60 °C

Shock and vibration IEC 60068

EMC approval EN301489, EN 61326, EN61000

Eco Current Profiler



→ Environmental

Depth rating (Eco) 50 m

Depth rating (Release) 60 m

→ Materials

Standard model POM

→ Dimensions

Maximum diameter 85 mm

Maximum length 130 mm

→ Weight

Weight in air 1.02 kg

Weight in water 0.28 kg