

Eco



Profileur côtier dans un package minimaliste. Idéal pour les premières utilisations de profileurs de courant, les petits budgets et les activités pédagogiques

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.

Highlights

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

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
Accuracy/precision	0.5% FS / 0.005% of full scale
Position	embedded GNSS receiver
Accuracy	3 m

→ Analog inputs

No. of channels	N/A
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→ Data recording

Capacity	16 GB (>5 yrs back-to-back monthly deployments without formatting)
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→ Real-time clock

Accuracy	±2 min/year
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→ Data communications

I/O	Bluetooth Low Energy (BLE)
User control	Smart device and PC App with secure cloud storage Eco account
Bluetooth and NFC tag module	NINA-B112-02B

→ 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.
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→ Power

DC input	N/A
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→ Batteries

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

Operating temperature	-5 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	IEC 60068
EMC approval	EN301489, EN 61326, EN61000
Depth rating (Eco)	50 m
Depth rating (Release)	60 m

→ Materials

Standard model	POM
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→ Dimensions

Maximum diameter	85 mm
Maximum length	130 mm

→ Weight

Weight in air	1.02 kg
Weight in water	0.28 kg