

Aquadopp Profiler Z-Cell 2 - 400 kHz



NEW!



Jusqu'à 90 m de mesure de profil de courant et sans zone blanche. Idéal pour les mesures proches des frontières

Need to collect accurate 3D currents very near the seabed or sea surface, in addition to a full water-column profile?

The Z-Cell (Zero Cell) Aquadopp allows current measurement to start right at the instrument's level through an innovative approach: it has side-looking beams fully integrated into the instrument's head, effectively removing the blanking distance normally applicable to ADCPs.

Highlights

- ✓ Up to 90 m current profiling range
- ✓ Capable of measuring surface or bottom currents
- ✓ Ideal for mean current measurements

Applications

- ✓ Mounted on bottom frames, with ability to also measure near-bed currents
- ✓ Mean flow measurements with high focus on ease of use and simplicity
- ✓ Measurements in flow regimes with strong variations in flow speeds
- ✓ Studies of tidal currents
- ✓ Measurements of combinations of waves and currents
- ✓ Mounted on surface buoys, with the ability to also measure surface currents

Technical specifications

→ Water velocity measurements

Nominal profiling range*	90 m
Cell size	1-8 m
Maximum number of cells	200
Minimum blanking	0 m with Z-cell enabled
Velocity range (along beam)	±1 m/s, ±2.5 m/s, ±5 m/s
Accuracy	±1% of measured value ±0.5 cm/s
Velocity range (horizontal)	±2.3 m/s, ±5.75 m/s, ±11.5 m/s
Horizontal velocity precision**	Typ. 1cm/s
Maximum sampling rate (output)	1 Hz
Wave measurement	PUV (optional)

- Depending on scattering conditions

** Consult instrument SW

→ Z-Cell Properties

Distance to measurement volume	0.05 - 2.5 m
Cell size	0.2 - 1.5 m
Velocity range (Horizontal)	±5 m/s
Transducer acoustic frequency	2 MHz
Number of beams	2

→ Echo intensity

Sampling	Same as velocity
Resolution	0.5 dB
Dynamic range	90 dB
Transducer acoustic frequency	400 kHz
Number of beams	3
Beam width	1,9° (3,8° total)

→ Sensors

Temperature:	
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. time response	<1 min
Compass:	Solid State Magnetometer
Accuracy/resolution	<2° for tilt <30°/0.01°
Tilt:	Solid State Accelerometer
Accuracy/resolution	0.2° for tilt <30°/0.01°
Maximum tilt	Full 3D

→ Sensors

Up or Down	Automatic detect
Pressure:	Piezoresistive
Range	30 m / 100 m / 500 m
Accuracy/precision	0.5% FS / 0.005% of full scale

→ Data recording

Capacity	16 GB
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→ Real-time clock

Accuracy	±1 min/year
Backup in absence of power	4 weeks

→ Data communications

I/O	RS-422 (Inquire for RS-232)
Communication Baud Rate	9600 Baud-1.2 Mbaud (default 115200 Baud)
User control	Nortek Deployment Software or direct ASCII commands, with binary or ASCII data output

→ Software

Operating system	Agnostic
Functions	Deployment planning, instrument configuration, data retrieval and conversion. Online data display.

→ Power

DC input	9-24 VDC
Absolute maximum DC input	26 VDC
Maximum peak current	4.5 A
Power consumption	Consult Nortek Deployment Software
Sleep current	< 10 uA
Transmit power	Adjustable

→ Batteries

Internal Battery Capacity	1-3x 50 Wh (Alkaline), 2-3x 165 Wh (Lithium), 1-3x 76Wh (Li-Ion)
Battery weight	430g per 50 Wh (Alkaline), 380g per 165 Wh (Lithium), 300g per 76Wh (Li-Ion)

→ Environmental

Operating temperature	-5 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	Shock: IEC 60068-2-27, Vibration: IEC 60068-2-64
EMC	EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019
Depth rating	500 m

→ Connectors

Bulkhead (Impulse)	MCBH-8-FS Brass
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→ Connectors

Cable	PMCIL-8-MP on 5m (default) polyurethane cable
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→ Materials

POM, Naval Brass, Titanium Gr.5, Epoxy

→ Dimensions (see drawings for details)

Maximum housing diameter	75 mm
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Maximum length	701 mm
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→ Weight

Weight in air (without batteries)	3900 g
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Weight in water (without batteries)	60 g
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→ Head Configurations

S4VZ	Shallow water, 400 kHz, Vertical orientation, Z-cell Profiler
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