

Aquadopp Profiler 600 kHz - 500m, Z-Cell, Generation 2



New image
coming soon!

Up to 40 m current profiling range and no blanking; ideal for mean and boundary current measurements

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) 600 kHz 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.

See the details of the Generation 2 Aquadopp updates in the release notes [here](#).

Highlights

- ✓ Up to 40 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
- ✓ Mounted on surface buoys, with the ability to also measure surface currents
- ✓ Mean flow measurements with high focus on ease of use and simplicity
- ✓ Studies of tidal currents

Technical specifications

→ Water velocity measurements

Nominal profiling range *	40 m
Cell size	0.5-8m
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

→ Echo intensity

Sampling	Same as velocity
Resolution	0.5 dB
Dynamic range	90 dB
Transducer acoustic frequency	600 kHz
Number of beams	3
Beam width	1.55° (3.1° 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

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

→ Real-time clock

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

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

Operating system	Cross platform
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Functions	Deployment planning, instrument configuration, data retrieval and conversion. Online data display.
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→ Power

DC input	9-24 VDC
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Absolute maximum DC input	26 VDC
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Maximum peak current	4.5 A
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Power consumption	Consult Nortek Deployment Software
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Sleep current	< 40 uA
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Transmit power	Adjustable
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→ Batteries

Internal battery capacity	1-3x 50 Wh (Alkaline)
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2-3x 165 Wh (Lithium)	
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1-3x 76Wh (Li-Ion)	
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Battery weight	430g per 50 Wh (Alkaline)
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380g per 165 Wh (Lithium)	
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300g per 76Wh (Li-Ion)	
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→ Environmental

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

Bulkhead (Impulse)	MCBH-8-FS Brass
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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	686 mm
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→ Weight

Weight in air (without batteries)	3580 g
Weight in water (without batteries)	160 g
Weight in air, short (without batteries)	2980 g
Weight in water, short (without batteries)	610 g

→ Head configurations

S4VZ	Shallow water, 400 kHz, Vertical orientation, Z-cell Profiler
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→ Online cable information

Cable length	0-10m; 10-50m; 50-500m
Power wire gauge	20AWG; 20AWG; 18AWG
Hardware	Standard; Standard; Long cable kit
Input voltage	9-24VDC; 24VDC +/-0,5; 48VDC +/-5
Absolut maximum DC input	26 VDC; 26 VDC; 51 VDC
Communication	RS232/RS422/115200; RS232/RS422/115200; RS422/115200