

Aquadopp Z-Cell 600 kHz

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Jusqu'à 40 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.

Applications

Highlights

- [/] Up to 40 m current profiling range
- [/] Capable of measuring surface or bottom currents
- [/] Ideal for mean current measurements
- [/] 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

[arrow] Water velocity measurements

Maximum profiling range	30-40 m
Cell size	1-4 m
Minimum blanking	0.50 m when profiling; 0 m when Z-Cell enabled
Maximum number of cells	96

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Water velocity measurements

Measurement cell position	N/A
Default position (along beam)	N/A
Velocity range	± 10 m/s
Accuracy	$\pm 1\%$ of measured value ± 0.5 cm/s
Velocity precision	Consult instrument software
Maximum sampling rate (output)	1 Hz
Internal sampling rate	3 Hz

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Echo intensity (along slanted beams)

Sampling	Same as velocity
Resolution	0.45 dB
Dynamic range	90 dB
Transducer acoustic frequency	600 kHz
Number of beams	3
Beam width	3.0°

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HR option

Maximum profiling range	N/A
Cell size	N/A
Minimum blanking	N/A
Maximum number of cells	N/A
Range/Velocity limitations	N/A
Accuracy	N/A
Max. sampling rate	N/A

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Z-Cell option

Cell zero acoustic frequency	2 MHz
Maximum profiling range	0.4-0.9 m
Number of beams	2

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Sensors

Temperature:	Thermistor embedded in head
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. time response	10 min
Compass:	Magnetometer
Accuracy/resolution	2°/0.1° for tilt < 20°
Tilt:	Liquid level
Accuracy/resolution	0.2°/0.1°
Maximum tilt	30°
Up or Down	Automatic detect
Pressure:	Piezoresistive
Range	0-100 m (inquire for options)
Accuracy/precision	0.5% FS / 0.005% of full scale

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Analog inputs

No. of channels	2
Supply voltage to analog output devices	Three options selectable through firmware commands: 1) Battery voltage/500 mA, 2) +5 V/250 mA, 3) +12 V/100 mA
Voltage input	0-5 V
Resolution	16-bit A/D

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Data recording

Capacity	9 MB, can add 4/16 GB
Data record	9*Ncells + 32 bytes
Diagnostics record	N/A
Wave record	Nsamples * 24 + 60 bytes
Mode	Stop when full (default) or wrap mode

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Real-time clock

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

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Data communications

I/O	RS-232 or RS-422
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Data communications

Communication baud rate 300-115200 Bd

Recorder download baud rate 600/1200 kBd for both RS-232 and RS-422

User control Handled via "Aquadopp" software, ActiveX® function calls, or direct commands with binary or ASCII data output

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Connectors

Bulkhead MCBH-8-FS

Cable PMCIL-8-MP on 10 m polyurethane cable

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Software

Functions Deployment planning, instrument configuration, data retrieval and conversion (for Windows®)

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Power

DC input 9-15 V DC

Maximum peak current 3 A

Avg. power consumption 0.06 W

Sleep current < 100 µA

Transmit power 0.3-20 W, 3 adjustable levels

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Batteries

Battery capacity 50 Wh (alkaline or Li-ion), 165 Wh (lithium), Single or dual

New battery voltage 13.5 V DC

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Environmental

Operating temperature -5 to +40 °C

Storage temperature -20 to +60 °C

Shock and vibration IEC 721-3-6

EMC approval IEC 61000

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Environmental

Depth rating 300 m

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Materials

Standard model POM and polyurethane plastics with titanium fasteners

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Dimensions

Maximum diameter 100 mm

Maximum length ~550 mm (single battery), +110 mm (double battery) depending on head configuration

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Weight

Weight in air 2.9 kg

Weight in water 0.4 kg

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Options

1) Alkaline, lithium or Li-ion external batteries, 2) Inquire for different head configurations