

Aquadopp 3000 m

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Single-point current meter designed for very long-term deployments

With all the features and capabilities of the standard Aquadopp, the deepwater Aquadopp 3000 m current meter has been used and proven by oceanographers around the world for almost 20 years. Thanks to innovative data diagnostic features for challenging environments, it provides exceptionally high-quality 3D currents in a form factor that is easy to install in any type of mooring line configuration, or simply attached to a bottom or surface platform.

Raw magnetometer data can be stored for post calibration of compass when used without the inductive modem option.

Highlights

- [/] Single-point current meter
- [/] Designed for very long-term deployments
- [/] Diagnostics mode for mooring performance evaluation

Applications

- [/] Studies of deep-water currents
- [/] Studies of tidal currents
- [/] Attached to mooring lines
- [/] In conjunction with riser monitoring systems
- [/] Measurements of unaffected currents from physical structures
- [/] Alternative to conventional current meters with errors due to fouling
- [/] Combination of currents and high-accuracy CTD data
- [/] Near-bed current measurements from landers
- [/] Deep ocean mining support

Technical specifications

[arrow] Water velocity measurements

Maximum profiling range	N/A
Cell size	0.75 m
Minimum blanking	0.50 m
Maximum number of cells	1
Measurement cell position	0.5-5.0 m (user-selectable)
Default position (along beam)	0.50-2.0 m
Velocity range	±5 m/s
Accuracy	±1% of measured value ±0.5 cm/s
Velocity precision	Consult instrument software
Maximum sampling rate (output)	1 Hz
Internal sampling rate	23 Hz
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Echo intensity

Sampling	Same as velocity
Resolution	0.45 dB
Dynamic range	90 dB
Transducer acoustic frequency	2 MHz
Number of beams	3
Beam width	3.4°
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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	N/A
Maximum profiling range	N/A
Number of beams	N/A

[arrow]

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	3000 m
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	40 bytes
Diagnostics record	40 bytes
Wave record	N/A
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
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	0.015 W
Sleep current	< 100 µA
Transmit power	20 W

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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 (alkaline)

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Environmental

Operating temperature	-5 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	IEC 721-3-2

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Environmental

EMC approval IEC 61000

Depth rating 3000 m

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Materials

Standard model POM housing

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Dimensions

Maximum diameter 84 mm

Maximum length ~500 mm (single battery) or +110 mm (double battery) depending on head configuration

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Weight

Weight in air 3.6 kg

Weight in water 1.2 kg

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Options

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