

Aquadopp 300 m

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Highly versatile single-point current meter with optional PUV wave measurements

The Aquadopp 300 m is a compact, accurate and affordable single-point current meter for applications where a current profile is not needed. Designed for use in a number of deployment scenarios from mooring lines to bottom-mounted structures, it comes with PUV-based directional wave measurement capability as standard, making it the best value in the industry.

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

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Highlights

- ✓ Single-point current meter
- ✓ Perfect for mooring lines
- ✓ PUV-based directional wave measurements

Applications

- ✓ Attached to mooring lines
- ✓ In conjunction with riser monitoring systems
- ✓ Measurements of unaffected currents from physical structures
- ✓ Shallow-water wave and current measurements
- ✓ Alternative to mechanical current meters with errors due to fouling
- ✓ Near-surface current measurements from surface buoys
- ✓ Studies of tidal currents
- ✓ Suitable for wave buoys

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Technical specifications

→ Water velocity measurements

Maximum profiling range	N/A
Cell size	0.75 m
Minimum blanking	0.35 m
Maximum number of cells	1
Measurement cell position	0.35-5.0 m (user-selectable)
Default position (along beam)	0.35-1.85 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, 4 Hz on request
Internal sampling rate	23 Hz

→ 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°

→ 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

→ 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	300 m
Accuracy/precision	0.5% FS / 0.005% of full scale

→ 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

→ Data recording

Capacity	9 MB, can add 4/16 GB
Data record	40 bytes
Diagnostics record	40 bytes
Wave record	40 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

→ Data communications

I/O RS-232 or RS-422

Communication baud rate 300-115,200 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

→ Connectors

Bulkhead MCBH-8-FS

Cable PMCIL-8-MP on 10 m polyurethane cable

→ Software

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

→ Power

DC input 9-15 V DC

Maximum peak current 3 A

Avg. power consumption 0.01 W

Sleep current $< 100 \mu\text{A}$

Transmit power 0.3-20 W, 3 adjustable levels

→ Batteries

Battery capacity 1) 50 Wh (alkaline or Li-ion), 2) 165 Wh (lithium), 3) Single or dual

New battery voltage 13.5 V DC (alkaline)

→ Environmental

Operating temperature -5 to $+40$ °C

Storage temperature -20 to $+60$ °C

Shock and vibration IEC 721-3-2

EMC approval IEC 61000

Depth rating 300 m

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→ Materials

Standard model	POM housing
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→ Dimensions

Maximum diameter	75 mm
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Maximum length	~500 mm (single battery) or +110 mm (double battery) depending on head configuration
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→ Weight

Weight in air	2.3 kg
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Weight in water	Neutral
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→ Options

1) Alkaline, lithium or Li-ion external batteries, 2) Inquire for different head configurations, 3) Inductive modem