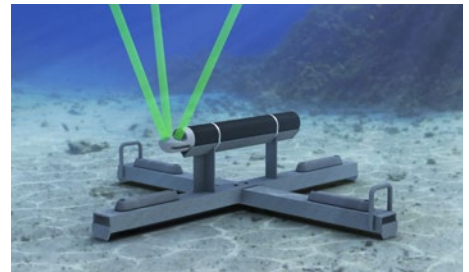


Aquadopp Profiler, 1 MHz



The Aquadopp Profiler is a highly versatile acoustic Doppler current profiler (ADCP) available in four profiling range options, from < 1 m to > 85 m. Designed for simple yet powerful operation, this current profiler is packed with features used by engineers and researchers to enable accurate and effective hydrodynamic data collection in a variety of environmental conditions.

Highlights

- Up to 25 m current profiling range
- Optional right-angle head
- PUV wave measurements

Applications

- Mean flow measurements with high focus on ease of use and simplicity
- Measurements in flow regimes with strong variations in flow speeds
- Projects with needs for both high-resolution and normal-range current measurements
- Studies of deep-water currents
- Studies of tidal currents
- Measurements of combinations of waves and currents
- Suitable for wave buoys



Technical specifications

Aquadopp Profiler, 1 MHz

→ Water velocity measurements		→ Data recording	
Maximum profiling range ¹⁾	12-25 m	Capacity	9 MB, can add 4/16 GB
Cell size	0.3-4 m	Data record	9*Ncells + 32 bytes
Minimum blanking	0.20 m	Diagnostics record	N/A
Maximum number of cells	128	Wave record	Nsamples * 24 + 60 bytes
Measurement cell position	N/A	Mode	Stop when full (default) or wrap mode
Default position (along beam)	N/A	→ Real-time clock	
Velocity range	± 10 m/s ²⁾	Accuracy	± 1 min/year
Accuracy	± 1% of measured value ± 0.5 cm/s	Backup in absence of power	4 weeks
Velocity precision	Consult instrument software	→ Data communications	
Maximum sampling rate (output)	1 Hz	I/O	RS-232 or RS-422
Internal sampling rate	7 Hz	Communication baud rate	300-115,200 Bd
→ Echo intensity (along slanted beams)		Recorder download baud rate	600/1200 kBd for both RS-232 and RS-422
Sampling	Same as velocity	User control	Handled via "AquaPro" software, ActiveX® function calls, or direct commands with binary or ASCII data output
Resolution	0.45 dB	→ Connectors	
Dynamic range	90 dB	Bulkhead (Impulse)	MCBH-8-FS
Transducer acoustic frequency	1 MHz	Cable	PMCIL-8-MP on 10 m polyurethane cable
Number of beams	3	→ Software	
Beam width	3.4°	Functions	Deployment planning, instrument configuration, data retrieval and conversion (for Windows®)
→ HR option		→ Power	
Maximum profiling range	6 m	DC input	9-15 V DC
Cell size	20-300 mm	Maximum peak current	3 A
Minimum blanking	0.2 m	Avg. power consumption ³⁾	0.05 W
Maximum number of cells	128	Sleep current	< 100 µA
Range/velocity limitations	Product of profiling range and velocity should not exceed 1.0 m ² /s	Transmit power	0.3-20 W, 3 adjustable levels
Accuracy	± 1% of measured value ± 0.5 cm/s	→ Batteries	
Max. sampling rate	1 Hz (continuous mode) 8 Hz (burst mode)	Battery capacity	<ul style="list-style-type: none"> • 50 Wh (alkaline or Li-ion) • 165 Wh (lithium) • Single or dual
→ Z-Cell option		New battery voltage	13.5 V DC (alkaline)
Cell zero acoustic frequency	N/A	→ Environmental	
Maximum profiling range	N/A	Operating temperature	-5 to +40 °C
Number of beams	N/A	Storage temperature	-20 to +60 °C
→ Sensors		Shock and vibration	IEC 721-3-7
Temperature:	Thermistor embedded in head	EMC approval	IEC 61000
Temp. range	-4 to +40 °C	Depth rating	300 m 3000 m option
Temp. accuracy/resolution	0.1 °C/0.01 °C	→ Materials	
Temp. time response	10 min	Standard model	POM and polyurethane plastics with titanium fasteners
Compass:	Magnetometer	→ Dimensions	
Accuracy/resolution	2°/0.1° for tilt < 20°	Maximum diameter	75 mm
Tilt:	Liquid level	Maximum length	~550 mm (single battery) +110 mm (double battery) depending on head configuration
Accuracy/resolution	0.2°/0.1°	→ Weight	
Maximum tilt	30°	Weight in air	2.2 kg
Up or Down	Automatic detect	Weight in water	0.2 kg
Pressure:	Piezoresistive	→ Options	
Range	0-100 m (inquire for options)		<ul style="list-style-type: none"> • Alkaline, lithium or Li-ion external batteries • Inquire for different head configurations
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: <ul style="list-style-type: none"> • Battery voltage/500 mA • +5 V/250 mA • +12 V/100 mA 		
Voltage input	0-5 V		
Resolution	16 bit A/D		

¹⁾ Depends on local scattering conditions, ²⁾ Inquire for higher ranges, ³⁾ Default configuration, see instrument SW for details and other setups