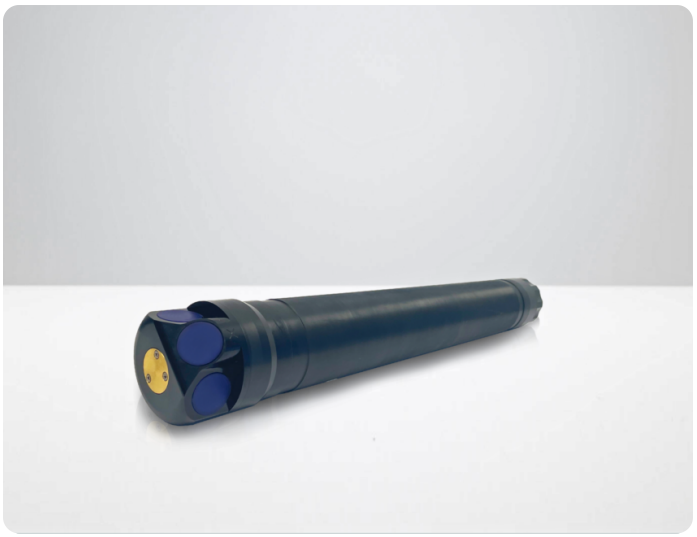
# Aquadopp 300 m

**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.

## 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

## 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 |

## Water velocity measurements

| | |
|---|---|
| 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° |

## 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 outputdevices | Three options selectable through firmwarecommands: 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 |

## 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 withbinary or ASCII data output |

## 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 µA |
| 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 |

## Connectors

| | |
|---|---|
| Bulkhead | MCBH-8-FS |
| Cable | PMCIL-8-MP on 10 m polyurethane cable |

## Materials

| | |
|---|---|
| Standard model | POM housing |

## Dimensions

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

## Weight

| | |
|---|---|
| Weight in air | 2.3 kg |
| Weight in water | Neutral |

## Options

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

## Online Cable Configurations

| | |
|---|---|
| Power wire gauge | 20AWG; 20AWG; 18AWG |
| Hardware | Standard; Standard; Long cable kit |
| Cable length | 0-10m; 10-50m; 50-500m |
| Input voltage | 9-24VDC; 24VDC +/-0,5; 48VDC +2/-5 |
| Absolut maximum DC input | 26 VDC; 26 VDC; 51 VDC |
| Communication | RS232/RS422/115200; RS232/RS422/115200; RS422/115200 |