# Aquadopp Profiler - 600 kHz



## Up to 40 m current profiling range; easy to operate and deploy

The Aquadopp Profiler is a highly versatile Acoustic Doppler Current Profiler (ADCP) available in four profiling range options, from < 1 m to > 85 m. The 600 kHz version has a current profiling range of up to 40 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 40 m current profiling range
- Ideal for mean current measurements
- Easy to operate and deploy

## Applications

- 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
- Suitable for wave buoys

## Technical specifications

| | |
|---|---|
| **→ Water velocity measurements** | |
| Maximum profiling range | 30-40 m |
| Cell size | 1-4 m |
| Minimum blanking | 0.50 m |
| Maximum number of cells | 96 |
| Measurement cell position | N/A |
| Default position (along beam) | N/A |
| Velocity range | ±10 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 | 4 Hz |
| **→ 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° |
| **→ 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 |
| **→ 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 |

| → Sensors | |
|---|---|
| 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 |
| → 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 | 9*Ncells + 32 bytes |
| Diagnostics record | N/A |
| Wave record | Nsamples * 24 + 60 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 | 300-115200 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 |
| → Connectors | |
| Bulkhead | MCBH-8-FS |
| Cable | PMCIL-8-MP on 10m 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 |

| → Power | |
|---|---|
| Avg. power consumption | 0.06 W |
| Sleep current | < 100 µA |
| Transmit power | 0.3-20 W, 4 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 721-3-6 |
| EMC approval | IEC 61000 |
| Depth rating | 300 m |
| **→ Materials** | |
| Standard model | POM and polyurethane plastics with titanium fasteners |
| **→ Dimensions** | |
| Maximum diameter | 100 mm |
| Maximum length | ~550 mm (single battery), +110 mm (double battery) depending on head configuration |
| **→ Weight** | |
| Weight in air | 2.9 kg |
| Weight in water | 0.4 kg |
| **→ Options** | |

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