

2D Horizontal Profiler

400 kHz

Jusqu'à 130 m de mesure de profil de courant en horizontal. Idéal pour les applications le long d'un quai

No longer available.
See new version.

The 2D Horizontal Profiler is the ideal tool for current measurements from a physical structure in, for example, port entrances. This ADCP provides the two horizontal flow components at multiple distances from the mounting and is commonly used in online applications where immediate access to current data is critical.

Highlights

- ✓ Up to 130 m horizontal profiling range
- ✓ Ideal for wall-mounted applications
- ✓ Corrosion-free housing

Applications

- ✓ Port entrances with challenging flow conditions
- ✓ Flow measurements upstream and downstream of tidal turbines
- ✓ Flow measurements from marine structures at draft depth

Technical specifications

Water velocity measurements

| | |
|-------------------------|---------------------------------------|
| Maximum profiling range | 100-130 m |
| Cell size | 1.0-8.0 m |
| Number of cells | Typical 20-40, max. 128 |
| Velocity range | ±10 m/s horizontal, ±5 m/s along beam |
| Accuracy | ±1% of measured value ±0.5 cm/s |
| Velocity precision | Consult instrument software |
| Maximum output rate | 1 Hz |
| Internal sampling rate | 3 Hz |

Echo intensity

| | |
|-------------------------------|-------------------|
| Sampling | Same as velocity |
| Resolution | 0.45 dB |
| Dynamic range | 90 dB |
| Transducer acoustic frequency | 400 kHz |
| Number of beams | 2, slanted at 25° |
| Beam width | 1.7° |
| Beam width vertical beam | N/A |

Wave measurement option (AST)

| | |
|---------------------------------|-----|
| Maximum depth | N/A |
| Data types | N/A |
| Sampling rate velocity (output) | N/A |
| Sampling rate AST (output) | N/A |
| No. of samples per burst | N/A |

Wave estimates

| | |
|---------------------------|-----|
| Range | N/A |
| Accuracy/resolution (Hs) | N/A |
| Accuracy/resolution (Dir) | N/A |
| Period range | N/A |
| Cut-off period (Hs) | N/A |
| Cut-off period (dir) | N/A |

Sensors

| | |
|---------------------------|--|
| Temperature: | Thermistor embedded in housing |
| Temp. range | -4 to +40 °C |
| Temp. accuracy/resolution | 0.1 °C/0.01 °C |
| Temp. time response | < 5 min |
| Compass: | Magnetoresistive |
| Accuracy/resolution | 2°/0.1° for tilt <15° |
| Tilt: | Liquid level |
| Accuracy/resolution | 0.2°/0.1° |
| Maximum tilt | 30° |
| Up or Down | Automatic detect |
| Pressure: | Piezoresistive |
| Range | 0-100 m |
| Accuracy | 0.5% of full scale (optional 0.1% of full scale) |
| Resolution | 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 |
| Profile record | Ncells*9 + 120 bytes |
| Wave record | N/A |
| Mode | Stop when full (default) or wrap mode |

Real-time clock

| | |
|----------------------------|-------------|
| Accuracy | ±1 min/year |
| Backup in absence of power | 1 year |

Data communications

| | |
|-----------------------------|---|
| I/O | RS-232 or RS-422. Software supports most commercially available USB-RS-232 converters |
| Communication baud rate | 300-115200 Bd |
| Recorder download baud rate | 600/1200 kBd for both RS-232 and RS-422 |
| User control | Handled via "AWAC" software, or ActiveX® controls. |
| Output formats | NMEA, Binary. Prolog provides same types also for processed wave and current data |

Connectors

| | |
|----------|--|
| Bulkhead | MCBH-2-FS, MCBH-8-FS, optional Souriau M-series metal connector for online use |
| Cable | PMCIL-8-MP on 10 m polyurethane cable |

Software

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

Power

| | |
|------------------------|-----------------------------|
| DC input | 9-18 V DC |
| Maximum peak current | 3 A |
| Avg. power consumption | Typical 1 W when sampling |
| Sleep current | < 100 µA |
| Transmit power | 1-30 W, 3 adjustable levels |

Environmental

| | |
|-----------------------|---------------|
| Operating temperature | -4 to +40 °C |
| Storage temperature | -20 to +60 °C |
| Shock and vibration | IEC 721-3-2 |
| EMC approval | IEC 61000 |
| Depth rating | 300 m |

Materials

| | |
|----------------|---|
| Standard model | POM and polyurethane plastics with titanium fasteners |
|----------------|---|

Dimensions

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|------------------|--------|
| Maximum diameter | 306 mm |
| Maximum length | 203 mm |

Weight

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|-----------------|--------|
| Weight in air | 8.8 kg |
| Weight in water | 3.2 kg |

Online cable

Polyurethane jacket, Shore D hardness, 13 mm in diameter, max 2 km. Inquire for longer cables