

2D Horizontal Profiler

1 MHz

30 m, Generation 2

Up to 30 m horizontal profiling range



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 30 m horizontal profiling range

Applications

- ✓ Horizontal current profiles in shallow water
- ✓ This instrument is used to perform river discharge measurements by River Insight

Technical specifications

| Water velocity measurements | |
|--------------------------------------|---------------------------------|
| Maximum profiling range* | 30 m |
| Cell size | 0.25 - 4.0 m |
| Number of cells | Typical 20-40, max. 160 |
| Velocity range (along beam) | User-selectable 1.0 to 5.0 m/s |
| Accuracy | ±1% of measured value ±0.5 cm/s |
| Velocity precision | Consult instrument software |
| Maximum output rate | 1 Hz |
| Internal sampling rate | 4 Hz |
| *Dependent on measurement conditions | |
| Echo intensity | |
| Sampling | Same as velocity |
| Resolution | 0.5 dB |
| Dynamic range | 90 dB |
| Transducer acoustic frequency | 1 MHz |
| Number of beams | 2, slanted at 25° |
| Beam width | 0.75° (1.5° total) |
| 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 in head |
| Temp. range | -4 to +40 °C |
| Temp. accuracy/resolution | 0.1 °C/0.01 °C |
| Temp. time response | < 1 min |
| Compass: | Solid state magnetometer |
| Accuracy/resolution | <2° for tilt <30° / 0.01° |
| Tilt: | Solid state accelerometer |
| Accuracy/resolution | 0.2° for tilt <30° / 0.01° |
| Maximum tilt | Full 3D |
| Up or Down | Automatic detect |
| Pressure: | Piezoresistive |
| Range | 30 m |
| Accuracy / precision | 0.5% FS / 0.005% of full scale |

Data recording

| | |
|----------|-------|
| Capacity | 16 GB |
|----------|-------|

Real-time clock

| | |
|----------------------------|-------------|
| Accuracy | ±1 min/year |
| Backup in absence of power | 4 weeks |

Data communications

| | |
|--------------------------------|-----------------------------------------------------------|
| Ethernet | N/A |
| Serial I/O | Configurable RS-232 or RS-422 |
| Serial communication baud rate | 9600-115200 Baud |
| Controller interface | ASCII command interface |
| Output formats | Binary, NMEA or ASCII data output. See Integration Manual |

Connectors

| | |
|--------------------|-----------------------------------------|
| Bulkhead (Impulse) | Brass female 8pin MCBH connector |
| Cable | PMCIL-8-MP on 10 m polyurethane cable/* |

Connectors

/*TBC

Software

Functions MIDAS software for configuration and display/*

/*Contact your local sales office for access

Power

| | |
|---------------------------|--------------------------|
| DC input | 9-24 VDC |
| Absolute maximum DC input | 26 VDC |
| Maximum peak current | 4.5 A |
| Sleep current | < 40 μ A |
| Transmit power | Maximum 45 W, adjustable |

Environmental

| | |
|-----------------------|---------------|
| Operating temperature | -5 to +40 °C |
| Storage temperature | -20 to +60 °C |
| Shock and vibration | IEC 721-3-7 |
| EMC approval | IEC 61000 |
| Depth rating | 30 m |

Materials

Standard model Delrin® and polyurethane plastics with titanium screws

Dimensions (see drawings for details)

| | |
|-----------------------|--------|
| Maximum diameter | 75 mm |
| Maximum length (S1SH) | 474 mm |
| Maximum length (S1VH) | 389 mm |

Weight

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