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	±0.5% of measured value ±0.25 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 µA
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