ChannelMaster H-ADCP

AFFORDABLE, HIGH-PERFORMANCE HORIZONTAL ACOUSTIC DOPPLER CURRENT PROFILER

Reliable Remote Monitoring

The compact, flexible, and affordable **ChannelMaster** is a horizontally-oriented Acoustic Doppler Current Profiler (H-ADCP) designed to collect high-accuracy water velocity, stage, and discharge data for a wide array of applications.

By leveraging Teledyne RDI's patented BroadBand technology, ChannelMaster allows you to obtain unmatched data quality, even in low velocities and complex flows, where a single cell cannot provide enough information.

The ChannelMaster's innovative design includes everything you need to collect high-quality data, without costly options. The standard unit comes equipped with temperature, pressure, pitch and roll, and a vertical beam—in many other systems these are all generally considered to be upgrades.

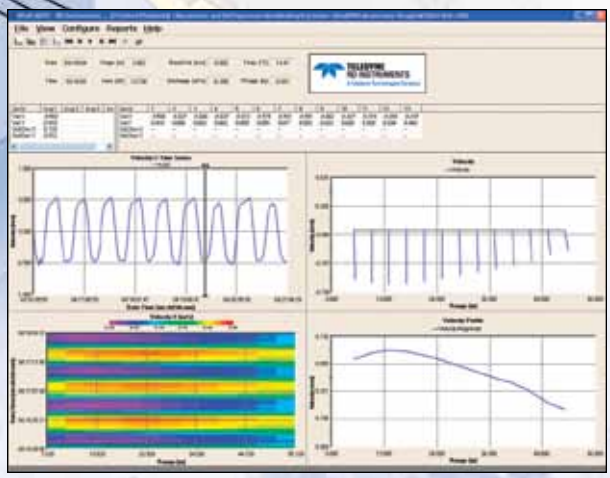
Only ChannelMaster provides:

- Teledyne RDI's patented BroadBand technology, which allows for small cells and/or short averaging/sampling intervals, resulting in highly accurate velocity data
- Ability to measure highly accurate velocities even in difficult environments such as slow flow or rapidly changing flow
- A range of 1–128 user-selectable cells, with cell sizes from 25cm to 8m and profiling ranges from 1m to 300m (depending on system frequency)
- A highly intuitive user interface designed to meet the needs of first-time users and seasoned researchers alike
- Standard stainless steel mounting fixture

ChannelMaster Applications:

- *Rivers, streams, and waterways: Obtain high-accuracy data for monitoring velocity, stage, and discharge data.*
- *Estuaries: Measure complex currents for environmental monitoring or circulation model calibrations.*
- *Ports and Harbors: Monitor currents to provide accurate information for vessel maneuvering and safety.*

Teledyne RDI's ChannelMaster H-ADCP is installed on a riverbank or near-shore structure to acquire real-time velocity, stage, and discharge data across a body of water.



ChannelMaster H-ADCP data samples.

MEASURING WATER IN MOTION AND MOTION IN WATER

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RD INSTRUMENTS
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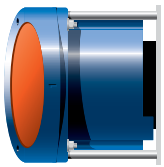
ChannelMaster H-ADCP

HORIZONTAL ACOUSTIC DOPPLER CURRENT PROFILER



Technical Specifications

Model	300	600	1200
Velocity Profiling (BroadBand mode)			
# cells	*1–128*	*1–128*	*1–128*
Min. cell size	*1m*	*0.5m*	*0.25m*
Max. cell size	*8m*	*4m*	*4m*
Max. profiling range[1]	*300m*	*90m*	*20m*
1st cell start	*2–40m*	*1–20m*	*0.5–10m*
Accuracy (cell = 1/2 max.)	*±0.5%*	*±0.5%*	*±0.5%*
	±0.2cm/s	*±0.2cm/s*	*±0.2cm/s*
Resolution	*0.1cm/s*	*0.1cm/s*	*0.1cm/s*
Velocity range	*±5m/s*	*±5m/s*	*±5m/s*
Physical Properties			
Weight in air	*6.8kg*	*4.76kg*	*3.4kg*
Weight in water	*3.17kg*	*2 kg*	*1.58kg*
Height[2]	*18.3cm*	*18.3cm*	*18.3cm*
Width[2]	*32.5cm*	*26.4cm*	*18.3cm*
Depth[2]	*19.8cm*	*19.3cm*	*18.9cm*
Transducer			
Geometry	*2 beams, ±20°*	*2 beams, ±20°*	*2 beams, ±20°*
Beam width	2.2°	1.5°	1.5°

[1] Maximum range depends on a number of factors, including temperature, salinity, suspended materials, etc.
[2] Mounted horizontally.

Standard Sensors

Acoustic stage: Range 0.1–10.0m
Accuracy ±0.1%, ±3mm
Resolution 0.01cm

Pressure: Range 0.1–10m
Accuracy 0.5%
Resolution 0.1cm

Temperature: Range -4° to 40°C
Accuracy ±0.2°C
Resolution 0.01°

Tilt (2 axes): Range ±10°
Accuracy ±0.2° @ 0°, ±0.5° @ 10°
Resolution 0.01°

Communications

RS-232 with SDI-12, or RS-422

- SDI-12 supports v 1.3 (concurrent).
- Simultaneous SDI-12, and internal logging supported.

Serial baud rates: 300–115,200 bps

Construction

Cast polyurethane with titanium hardware, mounting plate included.

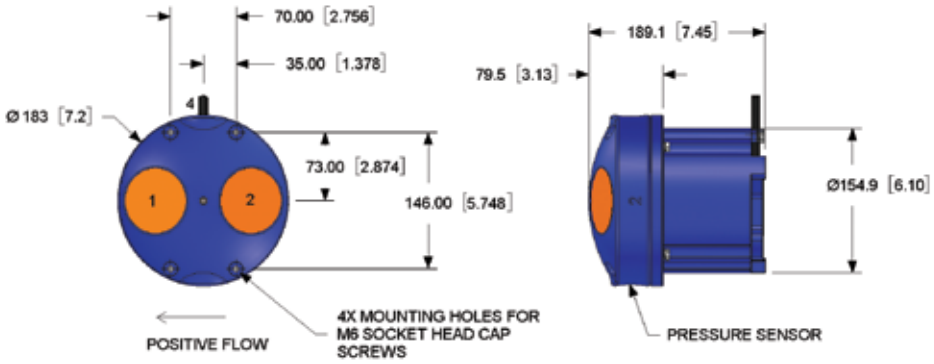
Power

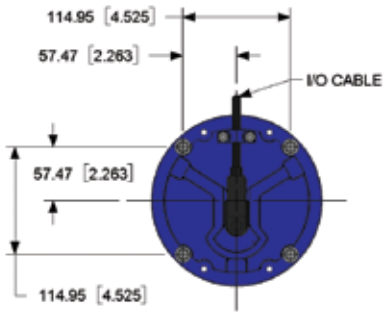
Voltage: 10-18VDC
Max. current: 1.5A

Note: Energy consumption depends on velocity profiling parameters. Contact Teledyne RD Instruments, or a representative, for an accurate prediction to your application.

Dimensions

All dimensions in diagram below are millimeters [inches].





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