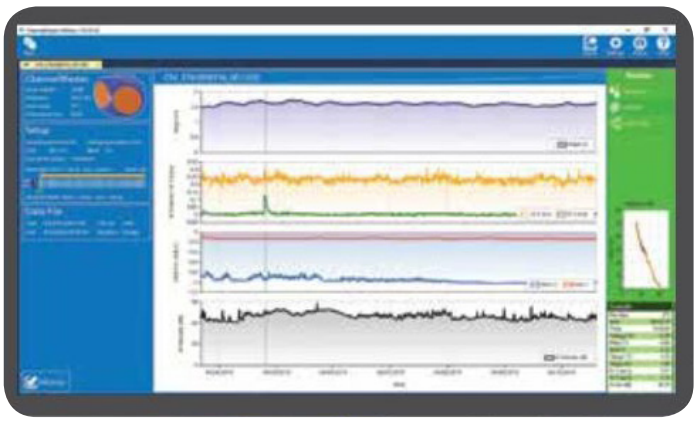
ChannelMaster

Horizontal Acoustic Doppler Current Profiler

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 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. The standard unit comes equipped with temperature, pressure, pitch and roll sensors, and a vertical beam.



ChannelMaster H-ADCP data sample.

The ChannelMaster H-ADCP is installed on a riverbank or near-shore structure to acquire real-time velocity, stage, and discharge data.

Product Features

- **Accurate:** Teledyne RDI Broadband technology allows for small cells and/or short averaging sampling intervals, thus increasing your data accuracy.
- **Robust:** Collect highly accurate velocities even in difficult environments such as slow flow or rapidly changing flow.
- **Versatile:** ChannelMaster offers a range of 1-128 userselectable cell sizes from 25 cm - 8 m and profiling ranges from 1 m - 300 m (frequency dependent).
- **Sturdy:** Comes standard with stainless steel mounting fixture.
- **Rivers, Streams, and Irrigation Canals:** Monitor discharge and water level for a variety of applications. The ChannelMaster easily integrates with a telemetry or SCADA system, providing you with remote access to your data.
- **Estuaries:** Measure complex currents for environmental monitoring or circulation model calibrations or verifications.
- **Port and Harbors:** Monitor currents to provide velocity information for vessel maneuvering and safety.

Technical Specifiactions

	CM300 300 kHz	CM600 600 kHz	CM1200 1200 kHz
Water Velocity Profiling:			
Profiling range:	4 m[1)] to 300 m[2)]	2 m to 90 m[2)]	1 m to 25 m[2)]
Velocity range:	± 5 m/s default, ± 20 m/s maximum		
Accuracy:	± 0,5 % of water velocity relative to ±2 mm/s		
Resolution:	1 mm/s	1 mm/s	1 mm/s
Number of cells:	1-128	1-128	1-128
Cell size:	1 m to 8 m	0.5 m to 4 m	0.2 m to 2 m
Blanking distance:	1 m	0.5 m	0.2 m
Data output rate:	User-programmable		
Physical Properties:			
Weight in air:	6.8 kg	4.76 kg	3.4 kg
Weight in water:	3.17 kg	2 kg	1.58 kg
Height:	18.3 cm	18.3 cm	18.3 cm
Width:	32.5 cm	26.4 cm	18.3 cm
Depth:	19.8 cm	19.3 cm	18.9 cm
Transducer:			
Geometry:	2 beams, ± 20°	2 beams, ± 20°	2 beams, ± 20°
Beam width:	2.2°	1.5°	1.5°

	Temperature	**Tilt** (pitch and roll)	**Pressure**	**Acoustic Stage**
Standard Sensors:				
Range:	-4 °C to 40 °C	± 10°	0.1 m to 10 m	0.1 m to 10 m[3)]
Accuracy:	± 0.2 °C	± 0.2° at 2°, ± 0.5° at 10°	0.5 %	± 0.1 %, ± 3 mm
Resolution:	0.01 °C	0.01°	1 mm	0,.1 mm

Software:	• WinH-ADCP: System setup, data acqusition, discharge calculation, data display, and summary report • PlanCV: Deployment planning, predicting precision, power usage, etc.
Hardware and Features:	• 4 MB internal recorder • 25 m power and communications cable standard, longer available • Stainless steel mounting plate • Built-in index-velocity method flow calculator
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:	10-18 VDC
Max. current:	1.5 A
Power consumption:	0.1 W @ 10 % duty cycle (typical)
Environmental:	
Operating temperature:	-5 °C to 45 °C
Storage temperature:	-20 °C to 50 °C

1) Assume one good cell (minimum cell size); range measured from the transducer surface.
2) Assume fresh water; actual range depends on temperature and suspended solids concentration.
3) User-programmable to 18m maximum.

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