

# ChannelMaster

## Horizontal Acoustic Doppler Current Profiler

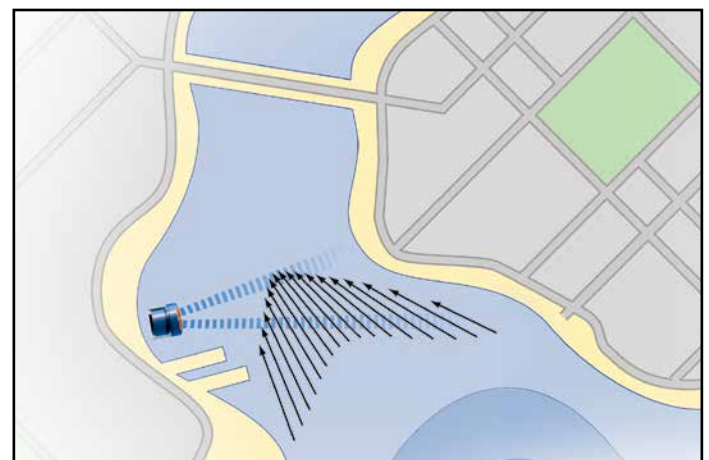
The compact, flexible, and affordable **ChannelMaster** is a horizontally-oriented Acoustic Doppler Current Profiler (H-ADCP) designed to collect high-accuracy water velocity, stage, and discharge data for a wide array of applications.

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.



Above: ChannelMaster H-ADCP data sample. Below: 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 user-selectable 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.

#### Applications

- **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.



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# ChannelMaster ADCP

Horizontal Acoustic Doppler Current Profiler



## TECHNICAL SPECIFICATIONS

		CM300 300 kHz	CM600 600 kHz	CM1200 1200 kHz
<b>Water Velocity Profiling</b> <i>(Broadband mode)</i>	Profiling range	4 m <sup>1</sup> to 300 m <sup>2</sup>	2 m <sup>1</sup> to 90 m <sup>2</sup>	1 m <sup>1</sup> to 25 m <sup>2</sup>
	Velocity range	•••••••• ±5 m/s default, ±20 m/s maximum ••••••••		
	Accuracy	•••••••• ±0.5% of water velocity relative to ADCP, ±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	2 m	1 m	0.5 m
	Data output rate	User-programmable	User-programmable	User-programmable
<b>Physical Properties</b>	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
<b>Transducer</b>	Geometry	2 beams, ±20°	2 beams, ±20°	2 beams, ±20°
	Beam width	2.2°	1.5°	1.5°
<b>Sensors</b>		Temperature	Tilt (pitch and roll)	Pressure
	Range	-4° to 40°C	±10°	0.1 m to 10 m
	Accuracy	±0.2°C	±0.2°@2°, ±0.5°@10°	±0.5%
	Resolution	0.01°C	0.01°	1 mm
<b>Software</b>	<b>ChannelMaster Utilities:</b> System setup and guided site visit workflow including data retrieval			
	<b>PlanCV:</b> Deployment planning, predicting precision, power usage, etc.			
	<b>WinH-ADCP:</b> System setup, data acquisition, discharge calculation, data display, and summary report			
<b>Other Hardware and Features</b>	<ul style="list-style-type: none"> <li>• 4mb internal recorder • 25 m power and communications cable standard, longer available</li> <li>• Stainless steel mounting plate • Built-in index-velocity method flow calculator</li> </ul>			
	<b>Communications</b>	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		
<b>Construction</b>	Cast polyurethane with titanium hardware, mounting plate included			
<b>Power</b>	Voltage	10-18VDC		
	Max. current:	1.5A		
	Power consumption:	0.1W @ 10% duty cycle (typical)		
<b>Environmental</b>	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 18 m maximum.