

Teledyne RD Instruments

RiverPro ADCP

Intelligent River Discharge Measurement System

5-Beam ADCP for Shallow River Environments

The Teledyne RD Instruments **RiverPro** is a part of our growing family of Acoustic Doppler Current Profilers (ADCPs) for inland Water Resources applications.

The 1200 kHz RiverPro has been purpose-built to fill two specific needs:

- To provide an ADCP designed specifically for shallow river applications (20 cm to 25 m range)
- To provide an upgrade path for our current industry gold-standard **Rio Grande** ADCP users

Like our next-generation RiverRay ADCP, the RiverPro offers users a 5-beam solution, **auto-adaptive sampling**, user-friendly interface, and Teledyne RDI's unsurpassed quality, service, and support.

The RiverPro has also been designed to fit into our RiverRay float, allowing users to swap out their ADCPs based upon their environment, eliminating the need to purchase and transport a second float.

Rio Grande ADCP users can also use RiverPro as a conduit to upgrade their existing Workhorse ADCP to include the benefits derived from our next-generation electronics and technology advancements.



Q-VIEW Combine your RiverPro with Teledyne RDI's **Q-View** software for unmatched measurement quality.

ADCP	IDEAL FIELD ENVIRONMENT
StreamPro ADCP	Shallow streams, 10 cm - 6 m *
RiverPro ADCP	Deep streams to shallow rivers, 20 cm - 25 m
RiverRay ADCP	Shallow to deep rivers, 40 cm - 60 m

* with extended range option

PRODUCT FEATURES

- A 20-degree beam, allowing users to collect data closer to the bottom
- A 600 kHz 5th beam collects true vertical velocity with a calibrated RSSI (return signal strength indicator) and range to bottom
- Fully integrated GPS for geo-referencing
- Auto-adaptive sampling, which quickly provides accurate discharge measurements without the need for user configuration
- A manual override, which allows advanced users the ability to fully customize their system setting as an alternative to auto-adaptive sampling

RiverPro ADCP



Intelligent River Discharge Measurement System

TECHNICAL SPECIFICATIONS

Water Velocity Profiling	Operation mode	Broadband / pulse coherent; automatic / manual			
	Velocity range	±5 m/s default, ±20 m/s max			
	Profiling range	12 cm ¹ to 25 m ²			
	Accuracy	±0.25% of water velocity relative to ADCP, ±2 mm/s			
	Resolution	1 mm/s			
	Number of cells	15-30 typical, 200 maximum			
	Cell size	2 cm to 5 m			
Data output rate	1-2 Hz (typical)				
Bottom Tracking	Operation mode	Broadband			
	Velocity range	±9 m/s			
	Depth range	15 cm to 35 m ²			
	Accuracy	±0.25% of bottom velocity relative to ADCP, ±2 mm/s			
	Resolution	1 mm/s			
Slant Beams (Depth Measurement)	Range	15 cm to 35 m ²			
	Accuracy	±1% ^{3,4}			
	Resolution	1 mm			
Vertical Beam (Depth Measurement)	Range	20c m to 120 m ²			
	Accuracy	±1% ⁴			
	Resolution	1 mm			
Standard Sensors		Temperature	Tilt (pitch and roll)	Compass	GPS (Embedded)
	Range	-5°C to 45°C	±90°	0-360°	3 m Horizontal / 5 m Vertical
Accuracy	±0.5°C	±0.3°	±1° ⁵		
Transducer and Hardware	System frequency	1200 kHz/600 kHz			
	Configuration	4 piston transducers, Janus arrangement with 20° beam angle/ 1 vertically oriented transducer			
	Internal memory	16 MB			
Communications	Standard	RS-232, 1200 to 115,200 baud. Bluetooth, 115,200 baud, 200 m range			
	Optional	Radio modem, range >30 km (line of sight)			
Software (included)	WinRiver II (standard) for moving-boat measurement, Q-View (optional), SxS Pro (optional)				
Power	Input voltage	10.5-18 Volts			
	Power consumption	1.5W typical			
	Battery (inside float)	12V, 7A-hr lead acid gel cell (rechargeable)			
	Battery capacity	> 40 hrs continuous operation			
Float (included)	Configuration	Three hulls (trimaran)			
	Material	Polyethylene			
	Dimensions	Length 120 cm, width 80 cm, height 20 cm			
	Weight	10 kg bare; 17 kg with instrument and battery			
GPS Integration (optional)	Integration with customer-supplied GPS, depth sounder, gyro compass via RS-232				
Environmental	Operating temperature	-5°C to 45°C			
	Storage temperature	-20°C to 50°C			

1. Distance measured from the center of the first cell to the transducer surface
2. Assumes fresh water, actual range depends on temperature and suspended solids concentration
3. For beam-averaged depth data
4. Assumes uniform water temperature and salinity profile
5. For combined tilt <±70° and dip angle <70°