



## Applications

Surface Water Velocity  
Stream Gaging  
Flood warning  
Hydropower  
Storm Water

## Surface Velocity Radar

Non-contact sensor for measuring open channel flow continuously

SDI-12 interface for compatibility with SDI-12 data loggers

Integrated tilt sensor for continuous verification of instrument alignment

Integrated vibration sensor for extended QA / QC

Swivel mount for flexible sensor mounting at vertical and horizontal structures

Velocity and status information available via SDI-12, RS-232, RS-485, and MODBUS protocol

### Reduces number of field visits and total cost of ownership

By mounting safely above the water surface away from floating debris and by having low-maintenance requirements, the sensor can remain operating uninterrupted for longer periods of time to save on unnecessary field visits and long-term costs.

### State-of-art measuring principle technology

Oriented parallel to the main flow direction and tilted against the water surface, the sensor is transmitting and receiving electromagnetic waves. The sensor detects a change in frequency of returning signals if the water surface is rough and in motion (Doppler shift). From this the water surface velocity can be derived.

### A leading indicator to detect shifts in existing discharge rating curves

If you have a rating curve based on flow meter or ADCP measurements and you are measuring continuous surface water velocity, you can use real measurements to verify the extrapolated part of the rating curve.

### Informs when instream velocity measurements may be required

When a shift is detected, depending on the nature and extent of the shift, it can indicate when a field visit is necessary. This ultimately improves data quality by enabling fast response to changes.

# Technical Specifications

	Feature	Value
MEASUREMENT	Measurement Range Velocity	0.08 ... 15 m/s (0.26 ... 49.12 ft/s)
	Resolution	0.1 mm/s (0.0003 ft/s)
	Accuracy	+/- 2% of measured value (0.08 m/s ... 4 m/s) (0.26 ... 13.12 ft/s) +/- 2.5% of measured value (4 m/s ... 12 m/s) (13.12 ... 39.37 ft/s)
	Beam Angle	12° Azimuth
		24° Elevation
	Detection Distance	1 ... 50 m (3.3 ... 164 ft)
	Distance to Water	0.5 ... 25 m (1.64 ... 82 ft)
	Radar Frequency	24 GHz (K-band)
INTERFACES	Serial Interfaces	RS-232, RS-485, SDI-12
	Protocols	SDI-12, MODBUS
ELECTRICAL DATA	Operating Voltage	9 ... 27 VDC
	Power/Current Consumption	Active typ. < 90 mA at 12 VDC
		Standby: < 7.5 mA @ 12 VDC
	Max. current: < 175 mA	
DIMENSIONS & WEIGHT	Dimensions (LxWxH)	134.5 x 114.5 x 80 mm (5.3 x 4.5 x 3.2 in) without mounting bracket
	Weight	Weight without mounting support: 820 g (1.81 lbs.)
		Weight with mounting support: 1530 g (3.37 lbs.)
MATERIAL	Material	Housing: ASA & Aluminium
		Radom: TFM PTFE
		Mounting: 1.4301 (V2A)
GENERAL	Rotation Range of Swivel Mount	Lateral axis: ±90°
		Longitudinal axis: ± 15°
	Cable Length	SDI-12 / RS-232: max. 65 m (9,600 Baud)
RS-485: max. 500 m (9,600 Baud)		
ENVIRONMENTAL CONDITIONS	Operating Temperature	-40° ... +85° C (-40° ... +185° F)
	Housing	IP68