

## Ultrasonic Flow Monitor



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## Overview



### APPLICATIONS

Records flow in streams, open channels and part-filled pipes

### FEATURES

Battery Powered for use in remote locations

Easy to install, no weir or flume required

New Level sensor

Optional Flow Display for on site viewing

Options for wireless and web data collection

SDI-12 Compatible

Rain gauge input

Low cost

The Geosense® Ultrasonic Flow Monitor is a compact, easy to use system for measuring the velocity and depth of water in rivers and streams, open drainage channels and large pipes. It is suitable for use in a wide range of water qualities ranging from sewerage and waste water to clean streams, potable water, and even sea water. The instrument measures forward and reverse flow conditions and may be programmed to compute flow rate and total flow in pipes and open channels.

The newest model, consists of a new depth sensor and a new velocity algorithm in addition to all the previous features. The ultrasonic transducer assembly is profiled to reduce flow disturbance and signal electronics. It is designed to be placed at (or near) the bottom of the water channel for upstream measurement. A single cable connects the instrument to a 12V DC power source.

Water velocity is measured by the ultrasonic Doppler principle which relies on suspended particles or small air bubbles in the water to reflect the ultrasonic detector signal. The instrument will not operate in very clean, degassed water. Water depth is gauged by a hydrostatic pressure sensor, referenced to atmospheric pressure through the vented power and signal cable.



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## Specifications

### VELOCITY

Range	21mm/s to 4500mm/s bi-directional
Accuracy	2% of measured velocity
Resolution	1mm/s

### DEPTH

Range	0 to 5m in two ranges
Resolution Range 0 to 2.5m	2.5mm
Range 2.5 to 5.0 m	5.0mm
Accuracy	± 0.25%

### TEMPERATURE

Range	-17° to 60°C
Resolution	0.1°C

### FLOW

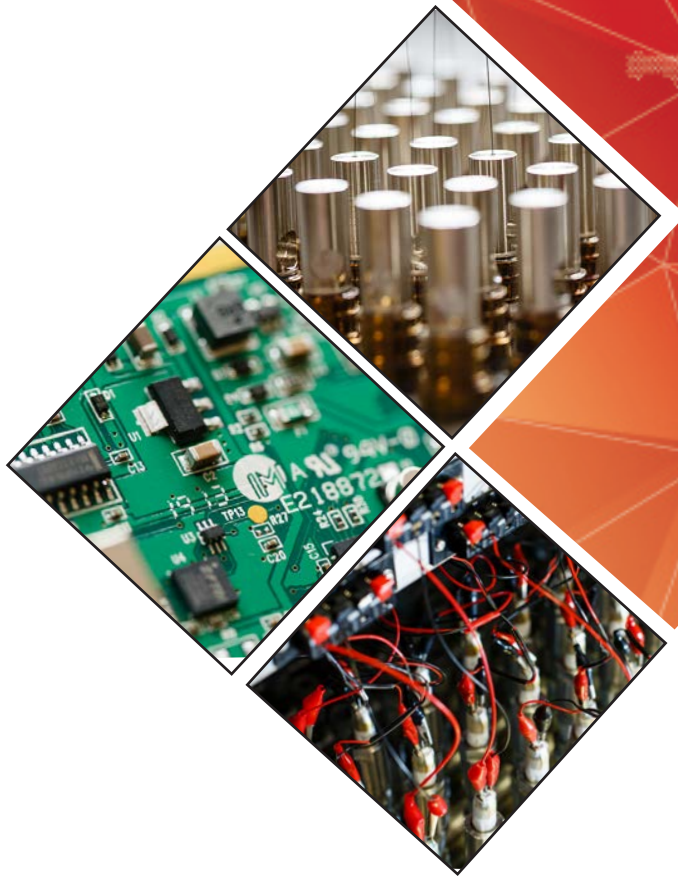
Computation	Flow rate, totalised flow
Channel type	Pipe, open channel, natural stream

### INTEGRATED MICROLOGGER

Storage Memory	100KB, CMOS RAM
Log interval	Programmable, five seconds to one week
SDI-12	1200 bps instrument channel
Communication	RS-232, 300-38400 bps
Control	CMOS output trigger (water sampler)

### GENERAL

Power usage	11.5 to 15V DC, 50µA standby, 200mA active, 90mA communications
Cable	15 metre, 9 way vented, <<SQL>> compatible
Material	PVC body, stainless steel mounting plate
Power source	External battery 12V DC
Operating Temperature	0°C to 60°C water temperature
Dimensions	290mm L x 70mm W x 30mm H
Weight	1kg (2kg with 15m cable)



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