



Flowmeter

S1428Z

S1429Z (20 m extension cable)

- **Measures water velocity**
- **Accurate in both clean and dirty water**
- **Analyses up to 1,000 separate velocity measurements**

The flowmeter measures water velocity by the Ultrasonic Doppler principle. The Doppler Effect can be observed by noting the change in pitch that occurs when a fast vehicle passes on the road. This same effect occurs in flowing water when a stationary signal from the flowmeter is reflected by moving particles. The change in pitch (frequency) of the reflected signal is a direct measurement of water velocity.

The velocity measurement technique relies on microscopic particles or air bubbles suspended in the water. The high frequency signal used by the flowmeter allows it to detect very small particles, and therefore, will operate in clean drinking water and natural streams. Waste water channels and sediment loaded streams are ideal for the flowmeters operation.

Open channels, partly filled pipes, and natural streams have very complex velocity characteristics. Such factors as turbulence, waves, stream slope, bed/wall roughness, rocks, and debris all combine to create an unpredictable velocity profile.

The flowmeter analyses up to 1,000 separate velocity measurements and statistically determines the mean velocity. This method provides a good measurement of “average velocity” even under difficult conditions.

Flowmeter applications include:

- Sewer monitoring
- Storm water monitoring
- Waste water treatment plant monitoring
- Natural streams and rivers
- Urban drainage
- Run-off/infiltration surveys
- Irrigation
- Estuary and tidal studies
- Industrial pollution metering
- Nutrient load management





Technical Specifications

S1428Z / S1429Z (20 m extension cable)

Velocity

Range:	21 mm/s to 5000 mm/s
Resolution:	1 mm/s
Accuracy:	2% of measured velocity
Signal Path:	30° above horizontal

Power

Battery:	External 12 VDC
Voltage:	11.5 V to 15 VDC
Current:	50 μ A standby 60 mA during communication 290 mA during measurement
Average Power:	0.3 W (1 min. scan rate)

PHYSICAL

Size:	290 mm (L) x 70 mm (W) x 25 mm (D)
Weight:	850 g (1.5 kg with 10 m cable)
Material:	PVC body Stainless steel mounting
Cable:	10 m, 9 way vented