

6527

STARFLOW QSD ULTRASONIC DOPPLER VELOCITY AND DEPTH INSTRUMENT



MODEL A



The Unidata 6527 Starflow QSD SDI-12 Instrument is used to measure water velocity, depth and temperature of water flowing in rivers, streams, open channels and large pipes. When used with a companion Unidata IP data logger, flow rate and total flow can also be calculated.

6527 Starflow QSD SDI-12 Instrument is robust, reliable and easy to use. It is completely sealed against water ingress, low maintenance – no calibration, low power – no fussy power arrangements needed.

Ultrasonic Doppler Principle in Quadrature Sampling Mode is utilised to measure water velocity. 6527 transmits ultrasonic energy through its epoxy casing into the water. Suspended sediment particles, or small gas bubbles in the water reflect some of the transmitted ultrasonic energy back to 6527 instrument's ultrasonic receiver. Instrument then processes this received signal and calculates the water velocity.

Water depth is also measured with an ultrasonic depth sensor. This technology enables the Starflow QSD SDI-12 Instrument to be completely sealed; potted in a solid block of 'ultrasonic-transparent' epoxy and free from any potential leaks that might otherwise occur.

Using an ultrasonic depth sensor also avoids the vulnerability of conventional pressure sensors to damage from water-borne debris and avoids the need for frequent recalibration to maintain accuracy.

6527 instrument is suitable for use in a wide range of water qualities, from sewage to potable water including sea water. However, it may not be as effective in clean, gas-free water.

6527 instrument measures velocity in both directions. With a companion Unidata Starlog datalogger or Neon Remote Terminal the instrument can be programmed to compute flow rate and total flow in pipes and open channels of known dimensions.

Simply mount it on, or near the bottom of the water channel. Starflow QSD SDI 12 Instrument's low-profile form-factor minimises disturbance to the flow it's measuring.

SPECIFICATIONS

PHYSICAL SPECIFICATIONS	
MATERIAL:	Epoxy-sealed body, Marine Grade 316 Stainless Steel Mounting Bracket
SIZE:	135mm x 50mm x 20mm (LxWxH)
WEIGHT:	1kg with 15m of Cable
OPERATING TEMPERATURE:	0°C to 60°C water temperature
VELOCITY RANGE:	20mm/s to 1600mm/s in one direction 20mm/s to 3200mm/s in one direction (parameter setting) Bidirectional flow capacity (parameter setting)
VELOCITY ACCURACY:	±2% of measured velocity
VELOCITY RESOLUTION:	1mm/s
DEPTH RANGE:	20mm to 2.0m/5.0m*
DEPTH ACCURACY:	Typical ± 1%

TEMPERATURE:	0°C to 60°C
TEMPERATURE RESOLUTION:	0.1°C
FLOW COMPUTATION:	Flow rate, totalised flow
CHANNEL TYPE:	Pipe, open channel, natural stream
CABLE:	15 metre, 3 way
CABLE OPTIONS:	User specified up to 50 metres
ELECTRICAL SPECIFICATIONS	
POWER SOURCE:	External Battery 12V DC
POWER USAGE:	10V to 24V DC, 50µA standby, 100mA active for 1 sec
SDI-12:	SDI-12V 1.3 recorder (1200 baud smart instrument channel)
* Range is above sensor and up to 2000mm in water with heavy sediment and up to 5000mm in water with medium sediment.	