6526

STARFLOW ULTRASONIC DOPPLER VELOCITY, DEPTH AND FLOW INSTRUMENT

MODEL J

Unidata ultrasonic Doppler instrument 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 sewage and wastewater to clean streams, potable water and even sea water. This model incorporates a backup lithium battery for the RAM which allows for logged data to be stored for some months / years until power is restored.

The instrument measures forward and reverse flow conditions and may be programmed to computer flow rate and total flow in pipes and open channels.

The ultrasonic transducer assembly is profiled to reduce flow disturbance. 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.

SPECIFICATIONS

PHYSICAL SPECIFICATIONS	
MATERIAL:	PVC body, Marine Grade 316 Stainless Steel Mounting Bracket
SIZE:	290mm x 70mm x 30mm (LxWxH)
WEIGHT:	2kg with 15m of Cable
OPERATING TEMPERATURE:	0°C to 60°C water temperature
VELOCITY RANGE:	21mm/s to 4500mm/s bi-directional
VELOCITY ACCURACY:	2% of measured velocity
VELOCITY RESOLUTION:	1mm/s
DEPTH RANGE:	0m to 2.0m and 0m to 5.0m
DEPTH ACCURACY:	Typical ± 0.25%
TEMPERATURE:	-17°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, 9 way vented <<SQL>> compatible
CABLE OPTIONS:	User specified up to 50 metres

ELECTRICAL SPECIFICATIONS	
POWER SOURCE:	External Battery 12V DC
POWER USAGE:	11.5V to 15V DC, 50µA standby, 200mA active, 90mA communications
CONTROL:	1 x CMOS output trigger – water sampler
COMMUNICATION:	1 x RS232C Baud rates: 300/1200/2400/4800/9600/ 19200/38400
SDI-12:	SDI-12V 1.3 recorder (1200 baud smart instrument channel)

INTEGRATED LOGGER SPECIFICATIONS	
STORAGE MEMORY:	Low power CMOS RAM 512k standard
RAM BACK UP BATTERY:	Lithium Battery 3V, 950mAh
TIME CLOCK:	Crystal regulated, +/- 10 seconds/month
SCAN RATES:	Programmable from 5 seconds to 5 minutes
LOG INTERVALS:	Programmable from 5 seconds to 24 hours
CPU:	80C552 microcontroller, 14.7456 MHz