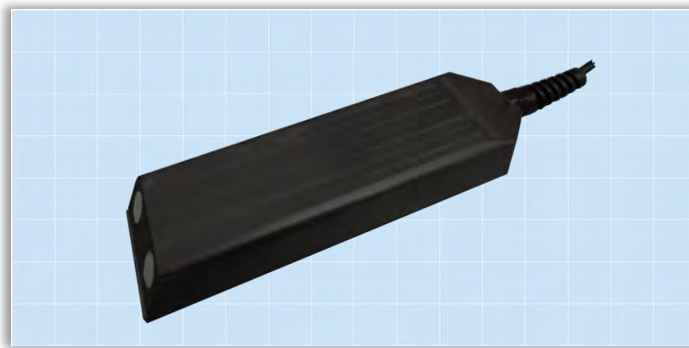


CROSS SMART SENSOR

DV7: Ultrasonic Velocity Sensor

Digital technology for optimized measures



FEATURES & BENEFITS

- ☐ Easy installation and fast setup with no velocity calibration required.
- ☐ Completely sealed sensor withstands prolonged submergence in challenging conditions.
- ☐ Advanced, ultrasonic 1 MHz Doppler technology avoids signal dropouts and ensures high levels of measurement accuracy even in low flow, reversed flow, full pipe and relatively clean water conditions.
- ☐ Signal auto-correlation detection and processing technology significantly reduces the noise caused by interference, which improves anti-jamming capability of the instrument.
- ☐ RS485 with Modbus RTU protocol.
- ☐ Fully compatible with Delta-Phase View™ for easy setup and data logging.
- ☐ PVC Housing with 316SS mounting bracket.

TYPICAL APPLICATIONS

- ☐ Flow rate / cross-sectional area flow meter
- ☐ With Doppler velocity sensor and ultrasonic level sensor used for sewage pipelines such as non-full pipe or open channel without primary device.
- ☐ Flow Meter
- ☐ Portable instrument with Doppler velocity sensor used for river course and sewage pipelines.



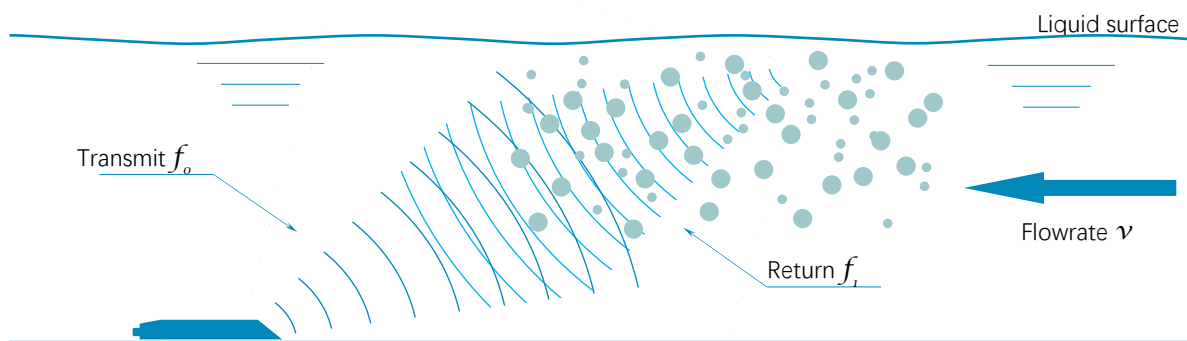
CROSS SMART SENSOR

The DV7 submersible velocity sensor is based on the Doppler Effect; it exploits the latest IDSR (Intelligent Doppler Signal Recognition) technology and innovative, rugged engineering design.

It outputs velocity value by employing the frequency shift between a transmitting ultrasonic wave and its echo caused by suspended particles or gas bubbles (discontinuities) in the flowing medium. The sensing elements are Doppler ultrasound twin 1 MHz piezoelectric crystals. The built-in electronic unit performs the velocity calculation and outputs a digital signal to a receiver. The DV7 seamlessly mates to any of the Delta-Phase GDC general display controllers or third-party transmitters.

For flow, the velocity is combined with level signal of a known flume cross section to provide corresponding Area/Velocity flow measurement in open channel and non-full pipe application without the need for a primary device.

The DV7 measures average velocity directly, so no more tedious flow profiling work, which significantly reduces the cost of installation and operation for industrial and municipal wastewater pipeline applications provided that the liquid contains at least 50ppm with suspended solids larger than 30 micrometers.

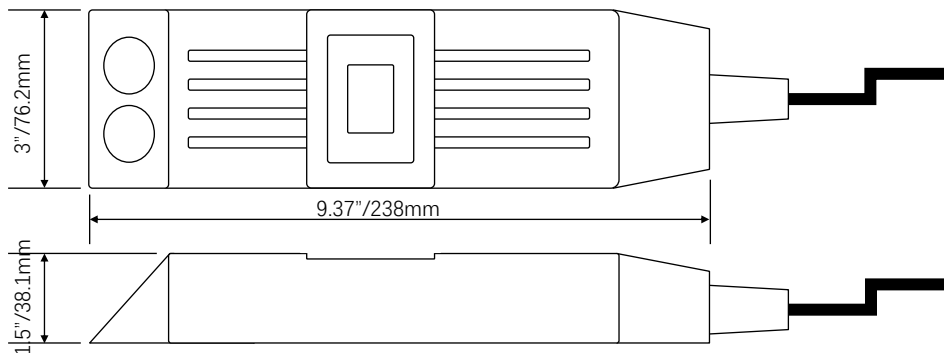


SPECIFICATIONS

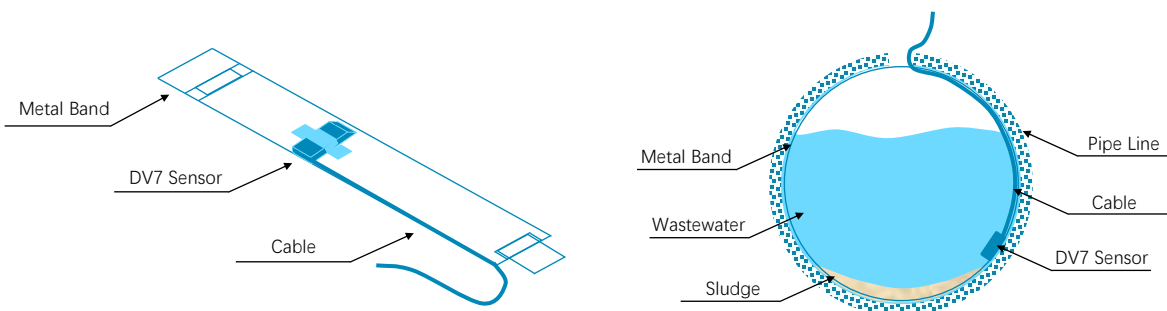
Principle	Velocity: Doppler ultrasound Twin 1 MHz piezoelectric crystals. Optional Depth: Absolute Pressure transducer, usually calculated by GDCs with APC (Atmosphere Pressure Compensation).
Accuracy	Velocity: $\pm 2\%$ of reading at the flowrate ≥ 1 ft/s (0.30m/s) Optional Depth: Typical $\pm 0.25\%$ full scale.
Resolution	Velocity: 0.039 inches/s (1 mm/s);
Range	Velocity: -5 to 20 ft/s (-1.52 to 6.1 m/s) liquids. 50 parts per million (PPM) of a minimum of 30-micron size suspended solids, turbulence or bubbles to ensure accurate, repeatable flow measurement. Optional Depth: Typical 0 to 3 m (0 to 10 ft.)
Storage Temp.	-4 ~ 158°F (-20 ~ 70°C)
Operate Temp.	14 ~ 122°F (-20 ~ 50°C) water temperature
Power Supply	24 VDC (18 ~ 36 VDC), 3W usually by GDCs.
Interface	RS485 Modbus RTU
Encloser	PVC body and 316SS mounting bracket.

IP Rate	>IP68 submersible
Diameter	3" × 9.37" × 1.5" (76.2×238×38.1mm)
Weight	4.4 lb (2kg) with 30 ft (9.1m) of Cable

DIMENSION



INSTALLATION



ORDER CODE

DV7 Ultrasonic Doppler Velocity Sensor

	-	Standard	More length please contact manufactory
	-P	with pressure transducer for Depth measurements	
		-C10 10" Cable	
		-C20 20" Cable	
		-C30 30" Cable	
DV7	-	-C30	

Specifications subject to change without notice.



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