

2110 Ultrasonic Module

Size (H x W x D):	2.9 x 11.3 x 7.5 in. (7.4 x 28.7 x 19.1 cm)
Weight:	2.4 lbs. (1.08 kg)
Material:	High-impact molded polystyrene
Enclosure (self-certified):	NEMA 4X, 6P (IP68)
Power Required:	7 to 15V DC, 170 mA active at 12V DC, 2.6 mA average, 0.4 mA standby
Typical Battery Life:	6.5 months (Level, temperature, and flow rate at 15-minute intervals; input voltage and total flow at 24 hour storage interval, using Energizer 529 alkaline batteries)
Program Memory:	Non-volatile, programmable flash; can be updated using PC without opening enclosure; retains user program after updating
Number of modules connected together:	Up to 4, field interchangeable
Maximum distance between modules:	3300 ft. (1000 m)
Wiring between remote modules:	Twisted pair for communication, pair for power, gauge dependent on distance

Level-to-Flow Rate Conversions

Weirs:	V-notch, rectangular, Cipolletti, Isco Flow Metering Inserts, Thel-Mar
Flumes:	Parshall, Palmer-Bowlus, Leopold-Lagco, trapezoidal, H, HS, HL
Manning Formula:	Round, U-shaped, rectangular, trapezoidal
Data Points:	Up to 50 level-flow rate points
Equation:	2-term polynomial
Total Flow Calculations:	1 independent, net positive or net negative, based on flow rate conversion
Data Storage Memory:	Non-volatile flash; retains stored data during program updates
Capacity:	395,000 bytes (up to 79,000 readings, equal to over 270 days of level readings at 15 minute intervals, plus total flow and input voltage readings at 24 hour intervals)
Data Types:	Level, flow rate, total flow, temperature, input voltage
Storage Mode:	Rollover with variable rate data storage based on level, flow rate, total flow, or input voltage
Storage Interval:	15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours
Bytes Per Reading:	5
Setup and Data Retrieval:	Serial connection to IBM PC or compatible computer with Isco Flowlink Software (Version 4.1 or newer)
Baud Rate:	38,400
Operating temperature:	0° to 140°F (-18° to 60°C)
Storage temperature:	-40° to 140°F (-40° to 60°C)

Ultrasonic Sensor

Enclosure:	NEMA 4X 6P (IP68)
Length x diameter:	2.7 x 2.6 in (6.9 x 6.6 cm)

Cable:	32.8 ft x 0.3 in (10 m x 0.8 cm)
Weight (incl cable):	1.8 lbs (0.8 kg)
Level Measurement (@ 22°C, 50% RH, still air)	
Frequency:	148 KHz
Cone Angle:	±12°
Span:	48.0 in (1.22 m)
Range:	2.0 to 50.0 in (0.05 to 1.27 m)
Accuracy:	From 2.0 to 39.4 inches (0.051 to 1.0 m), ±0.013 ft (±0.38 cm). From 39.4 to 50.0 inches (1.0 to 1.27 m), ±0.029 ft (±0.89 cm)
Temperature error (after level calibration):	±0.001 ft/°F (±0.005 cm/°C)
Temperature measurement	
Range:	-40 to 185 °F (-40 to 85° C)
Resolution:	0.9 °F (0.5°C)
2191 Battery Module	
Size (H x W x D):	6.0 x 9.6 x 7.6 in. (15.2 x 24.4 x 19.3 cm)
Weight (without batteries):	3.2 lbs. (1.4 kg)
Material:	High-impact molded polystyrene
Enclosure (self-certified):	NEMA 4X, 6P (IP68)
Batteries:	Two 6V Alkaline (Eveready Energizer 529)
Capacity:	25 Ahrs