Isco Product Data

Isco 710 Ultrasonic Flow Module

Uses non-contacting sensor

Plug in a 710 Flow Module and turn your 6700 Series or Avalanche® Sampler into a combination sampler and flow meter.

The Ultrasonic sensor is mounted above the flow stream, and it transmits a sound pulse that is reflected by the surface of the flow stream. The elapsed time between pulse and echo determines the level of liquid in the channel. The liquid level is then converted into flow rate by the sampler controller. A built-in temperature probe in the sensor automatically compensates for changes in air temperature to ensure measurement accuracy.

Because its sensor does not contact the liquid, the 710 is easy to install and gives you long-term dependability with no scheduled maintenance. The 710 is often the best choice for flow streams with corrosive chemicals or high concentrations of grease, suspended solids, or silt.

Applications

- Flow and level measurement in streams containing harsh chemicals, grease, or suspended solids
- 6712 or Avalanche sampler triggering based on level or flow
- Flow-proportioned sample collection
- Treatment capacity analysis
- Stormwater monitoring
- Combined sewer overflow studies
- Long-term river and stream gauging

Standard Features

- Non-contacting ultrasonic sensor is unaffected by flow stream composition
- Built-in flow conversions for most applications, including weirs and flumes, Manning formula, data points, or equations for special situations
- During the program's operation, current flow and level values are viewable on the sampler's LCD display
- All level data stored in the sampler is available for later retrieval, reporting, and graphing using Isco Flowlink® software

Simply plug in one of the environmentally-sealed modules to expand monitoring capabilities. They can easily be added or changed in the field.

Specifications

710 Module

Size *(H x W x D)*	4.9 x 5.7 x 2.0 in	12.4 x 14.5 x 5.1 cm
Weight	1.1 lbs	0.5 kg
Material	Polystyrene	
Enclosure	NEMA 4X, 6	IP67
Power *(provided by 6700 Series Sampler)*	9 to 14V DC	
Program Memory	Non-volatile, programmable flash; can be updated via interrogator port on 6700 Series Sampler using a PC	
Level Measurement Data Storage Interval *(programmable through 6700 Series Sampler)*	1, 2, 5, 10, 15, or 30 minutes	
Operating Temperature	32° to 120° F	0° to 49° C
Storage Temperature	0° to 140° F	-18° to 60°C

Ultrasonic Sensor

Length	6.0 in	15.2 cm
Diameter	2.3 in	5.7 cm
Cable Length	25 ft	7.6 m
Cable Diameter	0.3 in	0.8 cm
Weight *(including cable)*	2.1 lbs	1.0 kg
Enclosure	NEMA 4X, 6	IP67

Range *(distance from sensor to liquid)*				
Minimum	1 ft		0.3 m	
Maximum	11 ft		3.4 m	
Span	0 to 10 ft		0 to 3.0 m	
Level Measurement Accuracy *At 72°F (22°C), still air*	**Head Change***	**Maximum Error**	**Head Change***	**Maximum Error**
	Less than 1.0 ft	±0.02 ft	Less than 0.30 m	±0.006 m
	1.0 to 10 ft	±0.04 ft	0.30 to 3.0 m	±0.012 m
Temperature Coefficient	±0.000047 x D per °F		±0.000085 x D per °C	
Maximum error over compensated temperature range (per degree of temperature change)	*Where D is the distance from the transducer to the liquid surface*			
Operating Temperature	32° to 120°F		0° to 49°C	
Compensated Temperature	32° to 120°F		0° to 49°C	
Materials				
Sensor	Delrin® with Teflon® -coated transducer and Teflon-coated stainless steel temperature sensor			
Cable	Polyvinyl chloride (PVC) jacket			

**Actual change in vertical distance between the ultrasonic sensor and liquid surface.*

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Ordering Information

Description	Part Number
710 Ultrasonic Flow Module	**68-6700-049**
710 Accessories	
Sensor Cable Clamp	**60-3004-129**
Sensor Cable Straightener	**60-3213-061**
Sensor Mounting Bracket	**60-2443-092**
Sensor Sunshade	**60-3004-142**
Sensor Floor Mount	**60-3004-117**
Calibration Target	**60-3004-143**

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