

Isco 720 Submerged Probe Flow Module

The probe is mounted at the bottom of the channel, and uses a differential pressure transducer to measure the level of the flow stream. The 6700 Series or Avalanche Sampler then converts this depth measurement into flow rate. The probe's venting system automatically compensates for changes in atmospheric pressure to maintain accuracy. The 720 provides accurate measurement at sites where wind, steam, foam, turbulence, or air temperature fluctuations exist. The probe is suitable for small channels, and it accurately senses pressure even when covered with silt and sand.

Isco submerged probes are UL Classified for use in Class I, Division 1, Groups A, B, C, & D hazardous locations when installed using an Isco Intrinsically Safe Barrier and Quick-disconnect Box. This makes the submerged probe suitable in applications where flammable gases or vapors may be present.

Isco mounting rings make it easy to install the probe in round pipes, manhole inverts, and other open channels. And with the Isco Street Level Installation Tool, you can install your monitoring system from ground level, eliminating the costs and hazards of entering manholes. Most flumes are also available with an integral recess for mounting an Isco Submerged Probe.



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



Applications

- ◆ Flow measurement where wind, steam, foam, or turbulence exist
- ◆ Trigger sampling based on flow or level
- ◆ Flow-proportioned sample collection
- ◆ Treatment-capacity analysis
- ◆ Stormwater monitoring
- ◆ Combined sewer overflow studies
- ◆ Long-term river and stream gauging

Standard Features

- ◆ Submerged probe accuracy unaffected by wind, steam, foam, turbulence, or air temperature change
- ◆ Built in flow conversions for most applications, including weirs and flumes, Manning formula, data points, or equation for special situations
- ◆ During program 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

Specifications

720 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	Level Measurement Method Submerged pressure transducer mounted in the flow stream																								
Weight	0.9 lbs	0.4 kg																									
Material	Polystyrene		Transducer Type Differential linear integrated circuit pressure transducer																								
Enclosure	NEMA 4X, 6	IP67	Level Measurement Range Standard range probe 0.1 to 10 ft 0.03 to 3.05 m Extended range probe 0.1 to 30 ft 0.03 to 9.14 m																								
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		Maximum Allowable Level Standard range probe 20 ft 6.1 m Extended range probe 40 ft 12.2 m																								
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	Level Measurement Accuracy <i>Non-linearity, repeatability, and hysteresis at 77°F (25°C) (does not include temperature coefficient)</i> <table border="1"> <thead> <tr> <th></th> <th>Level*</th> <th>Error</th> <th>Level*</th> <th>Error</th> </tr> </thead> <tbody> <tr> <td>Standard range probe</td> <td>0.033 to 5.0 ft >5.0 ft</td> <td>±0.008 ft/ft ±0.012 ft/ft</td> <td>0.01 to 1.52 m >1.52</td> <td>±0.008 m ±0.012 m</td> </tr> <tr> <td rowspan="3">Extended range probe</td> <td>0.1 to 15 ft</td> <td>±0.01 ft</td> <td>0.03 to 4.6 m</td> <td>±0.006 m</td> </tr> <tr> <td>0.1 to 21 ft</td> <td>±0.03 ft</td> <td>0.03 to 6.4 m</td> <td>±0.009 m</td> </tr> <tr> <td>0.1 to 30 ft</td> <td>±0.3 ft</td> <td>0.03 to 9.1 m</td> <td>±0.091 m</td> </tr> </tbody> </table>			Level*	Error	Level*	Error	Standard range probe	0.033 to 5.0 ft >5.0 ft	±0.008 ft/ft ±0.012 ft/ft	0.01 to 1.52 m >1.52	±0.008 m ±0.012 m	Extended range probe	0.1 to 15 ft	±0.01 ft	0.03 to 4.6 m	±0.006 m	0.1 to 21 ft	±0.03 ft	0.03 to 6.4 m	±0.009 m	0.1 to 30 ft	±0.3 ft	0.03 to 9.1 m	±0.091 m
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Storage Temperature	0° to 140°F	-18° to 60°C																									
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Hazardous Location Rating	UL Classified for use in Class I, Division 1, Groups A, B, C, & D hazardous locations as defined by Article 500 of the National Electrical Code when installed with Isco Intrinsically Safe Barrier and Quick-disconnect Box per control drawing 60-3403-131.																										
Length (with standard tip)	9.5 in	24.1 cm	Temperature Coefficient <i>Maximum error over compensated temperature range (per degree of temperature change)</i> <table border="1"> <thead> <tr> <th></th> <th>Level*</th> <th>Error</th> <th>Level*</th> <th>Error</th> </tr> </thead> <tbody> <tr> <td>Standard range probe</td> <td>0.1 to 4.0 ft 4.0 to 10 ft</td> <td>±0.005 ft/°F ±0.007 ft/°F</td> <td>0.03 to 1.22 m 1.22 to 3.05 m</td> <td>±0.0027 m/°C ±0.0038 m/°C</td> </tr> <tr> <td>Extended range probe</td> <td>0.1 to 30 ft</td> <td>±0.008 ft/°F</td> <td>0.03 to 9.14 m</td> <td>±0.0044 m/°C</td> </tr> </tbody> </table>			Level*	Error	Level*	Error	Standard range probe	0.1 to 4.0 ft 4.0 to 10 ft	±0.005 ft/°F ±0.007 ft/°F	0.03 to 1.22 m 1.22 to 3.05 m	±0.0027 m/°C ±0.0038 m/°C	Extended range probe	0.1 to 30 ft	±0.008 ft/°F	0.03 to 9.14 m	±0.0044 m/°C								
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Diameter	0.875 in	2.2 cm																									
Frontal Area	0.601 in ²	3.88 cm ²																									
Cable Length			Operating Temperature 32° to 120°F 0° to 49°C																								
Standard range probe	25 ft	7.6 m	Compensated Temperature 32° to 100°F 0° to 38°C																								
Extended range probe	50 ft	15.2 m																									
Cable Diameter	0.3 in	0.8 cm	Materials																								
Weight (including cable)			Submerged probe Type 316 stainless steel, chlorinated polyvinyl chloride (CPVC)																								
Standard range probe	3 lbs	1.4 kg	Cable Polyvinyl chloride (PVC)																								
Extended range probe	7 lbs	3.2 kg																									
*Actual vertical distance between the submerged probe and the liquid surface.																											

Ordering Information

Description	Part Number
720 Submerged Probe Flow Module with 10 ft (3.05m) level measurement range with 30 ft (9.14 m) level measurement range	68-6700-068 68-6700-069
720 Accessories Quick-disconnect Box Intrinsically Safe Barrier	60-3224-003 60-3404-060



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