

Invasive Point Level System

Air-In-Line Sensor



Description

The Ultrasonic Point Level System 1680 Series is designed to non-invasively detect the presence or absence of liquid in a tube using Ultrasonic Technology to transmit and receive sound. There are no moving parts to the sensors. It is not dependent on the color, dielectric constant, density, viscosity of the liquid or the color, opacity and material of the tube. With an option of process fitting the sensor is easily installed and removes the variable of customer adjustment. The miniaturized electronics are built on the tube and encapsulated in an epoxy housing. The sensors can be built to any type of tube to detect the presence of bubbles or Air-In-Line that range in size from 6.3mm to 19mm. There is no calibration as each sensor is designed for the specific size tube, flow rate of the liquid, input and output of the user's specifications and requirements. Multiple points can be installed on the same tube. Consult HiTECH for sensors requiring a larger tube size.

Operation

The 168 Series unit consists of one or two piezoelectric elements mounted across a tube of material, outer diameter and wall thickness of the customer's specification. These elements convert electrical energy to mechanical energy in the form of an ultrasonic signal detecting the presence of liquid. The ultrasonic signal is attenuated with no liquid present and passes freely across the gap with the tube when liquid is present. The circuit detects the presence or absence of the ultrasonic signal and through a series of processing and filtering of the signal reliably determines the presence of bubbles and converts the signal to the desired output.

How to Order	HT168-	-	-	-	-	-	-	-	-	-
Input:	24VDC	-	0							
Output:	Sink(NPN) Dry-	--								
	Sink(NPN) Wet-	--								
Output:	Source(PNP) Dry-	--	0							
	Source(PNP) Wet-	--	1							
Mounting:	Integral	--	--	1						
	Remote	--	--	2						
Cable (remote):	in feet	--	--	--	01					
	Pipe OD-	--	--	--	0.25					
	Pipe ID-	--	--	--	0.21					
Process connection	-	-	-	-	-	-	-	-	1	
No Connection	-	-	-	-	-	-	-	-	0	
Male	-	-	-	-	-	-	-	-	M	
Female	-	-	-	-	-	-	-	-	F	
VCR	-	-	-	-	-	-	-	-	V	
Pipe Material	-	-	-	-	-	-	-	-	S	

Applications	Industries served
High Level / Overflow Alarm	Upstream Oil & Gas
Low Level / Pump Protection	Midstream Oil & Gas
Condensate Pots	Water & Waste- Water
Sump Water / Oil Detection	Chemical & Petrochemical
Lubricant Circulation Equipment	Pulp & Paper
Fill Machine Level Control	Food & Beverage
Pump Leak Detection	Military, Subsea / Surface
	Maritime Shipping
	Inland Barges, ERC Cargo
	Semiconductor

Sensor material 316LSS is standard, other materials available

CONSULT FACTORY FOR CUSTOMIZATION

Input: 9-30VDC
 Repeatability: 2mm or better.
 Delay (on): 0.1 seconds.
 Current consumption: Typical 25mA max
 Housing: Epoxy
 Probe material: 316SS Standard.
 Bubble size: Typical +/- 60% of ID of tube
 (depending on material)
 Pipe sizes from 6.3mm to 19mm
 Sensor Temperature: -0° to 65°C

Design Options

Housing: PCV, Ultem, ABS for OEM custom

Input option: 5VDC,

Output option: TTL

Consult Factory for other dimension

Optional material available.

Connector: Available (specify)

Remote Electronic module Optional

Status LED Avilable

Custom response time

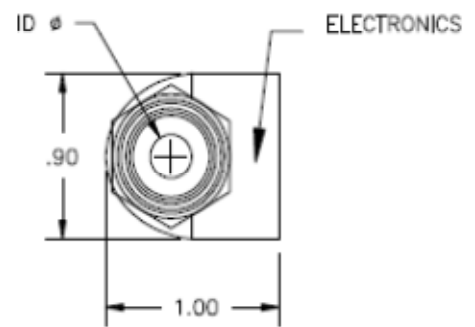
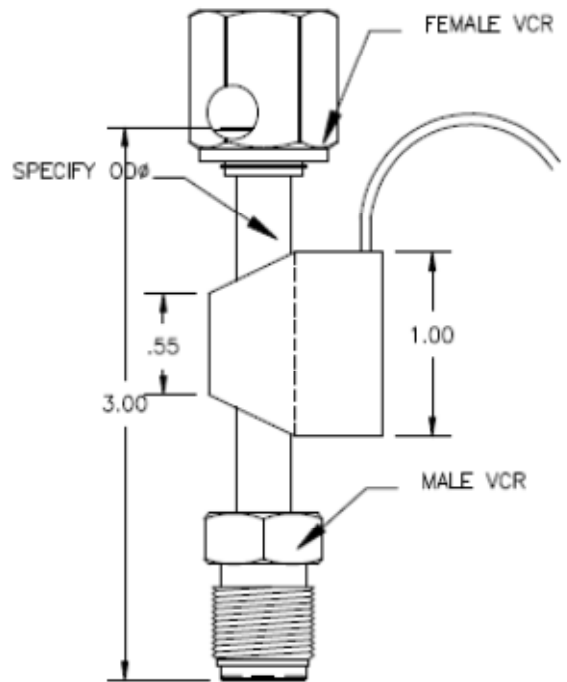
Custom design to fix users form and fit

Warranty

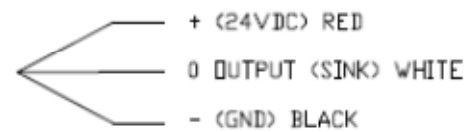
HiTECH' level sensors are warranted against inherent defects for a period of two years from the date of shipment.

Performance Guarantee

Should the unit not perform as we claim within 45 days of delivery and was properly installed consistent with our stated requirements and specifications HiTECH will gladly accept a return of the unit for a full credit.



WIRING



Disclaimer: Due to technical progress all Data Sheets are subject to change without notice. HiTECH believes all information in this Data Sheet is correct but is not responsible for any inaccuracies. HiTECH is not liable for any damages. It is the customer's responsibility to install, operate and maintain products properly.