



Sensaras

PLS1680 Series

Sound Steadfast Solutions

Made in the U.S.A

Air-In-Line Point Level System

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 in the sensor. 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. Consult Sensaras for sensors requiring a larger tube size. 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.

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.

Applications

*Chemical, Vapor, Atomic Layer Deposition
Filter / Pump protection
Chemical dispensing / Low level switch
Liquid food dispensing
Fill bottle machine
Pump leak detection*

Industries Served

*Semiconductor / Chemical

Food / Beverage
Automation*

Specifications

Design Features

Housing: Epoxy, PCV, Ultem,
 Input: 3.3VDC, 5VDC, 6-24VDC
 Output: NPN (Sink),
 PNP (Source),
 TTL

Current consumption: Typical 25mA max
 Temperature: -0 to 65°C
 Bubble size: Typical +/- 60% of ID of tube
 (depending on material)
 Cable: 12" Standard
 Response time: 200uS

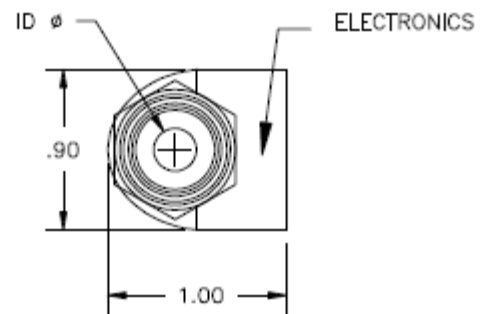
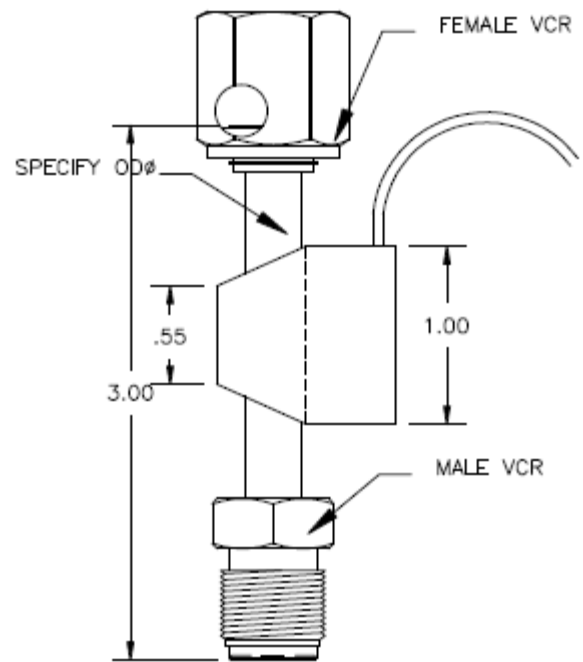
Design Options

Self-test: On Demand
 Connector: Available (specify)
 Remote Electronic module Optional
 Status LED Available
 Reverse Output logic
 Custom response time
 Custom design to fix users form and fit

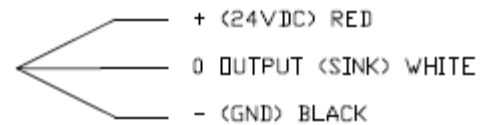
How to Order

Model 168	-	-	-	-	-	-
Input -3.3VDC	1					
-5VDC	2					
-6-24VDC	0					
Output -NPN (Dry)	1					
-PNP (Dry)	2					
-TTL (Dry)	3					
-NPN (Wet)	4					
-PNP (Wet)	5					
-TTL (Wet)	6					
Self-Test - No	0					
-Yes	1					
Tube -316LSS			S			
-Plastic			P			
-Glass			G			
Outer Diameter - mm				XX		
Wall thickness - mm					YY	
Fitting - None						0
VCR 1/4" M/F						1
VCR 3/8" M/F						2
Specify						X

Dimensions



WIRING



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 Sensaras will gladly accept a return of the unit for a full credit.

Warranty

Sensaras' level sensors are warranted against inherent defects for a period of 24 months from the date of shipment.

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