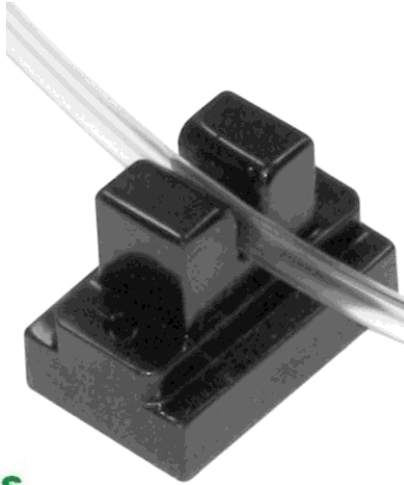


AD-101 Series



- Provides continuous monitoring of fluid level or air bubble presence
- Positively indicates the presence of a break in the flow of any liquid
- Sensor never contacts liquid, so there is no chance of contamination

DESCRIPTION

The Measurement Specialties Model AD-101 Non-Invasive Air Bubble and Level Detection provides continuous monitoring of fluid level or air bubble or foam in chemicals processing, infusion systems. When connected to a capillary or other type of tube. The Model AD-101 will positively indicate the presence of any break in the flow of any liquid. The unit simply clamps on the tube, it never comes in contact with the liquid, so there is no chance of contamination, making it ideal for blood flow monitoring, hemodialysis, or transfusion monitoring.

FEATURES

Standard Features

- Sensor customized to fit tube or pipe size 0.5 to 100 mm
- Detects bubbles 4 μ l & larger (standard; consult factory for 1 μ l & smaller bubble size)
- Differentiated output for single bubble, cluster of bubbles and foam
- Integral electronics
- Non-invasive design eliminates sterility and fluid compatibility concerns
- Acoustic coupling agent not required
- High noise immunity to EMI/RFI

Optional Features

- Integral optical sensor for blood leak or blood/saline/plasma detector
- Positive Insertion Indicator

APPLICATIONS

- Apheresis/Auto-transfusion
- Biotech/DNA Analysis
- Blood Processing
- Chemical Analysis
- Chromatography
- Hemodialysis
- Immunoassay
- IN-VIVO Detection of Gas
- Intravenous Detection Systems
- Infusion Pumps
- Low Flow Metering
- Semiconductor
- Viscosity Measurement

AD-101 Series

PERFORMANCE SPECIFICATIONS

Parameter	Typical Value
Sensitivity	Adjustable for different fluids, flow rates, foams and air bubbles sizes
Response Time	Microseconds to seconds, as per requirements
Tubing Size	0.5 to 100 mm outside diameter

Parameter	Typical Value
Temperature	Sensor: 32 to 212 °F (0 to 100 °C) Electronics: 32 to 150 °F (0 to 65 °C)
Input Power	5 to 30 VDC, optional 3.3VDC, for low power battery operated unit, consult factory
Output Signal	TTL, CMOS, open collector, optical isolated or SPDT relay, latched output with manual/automatic reset

APPLICATION SCHEMATICS

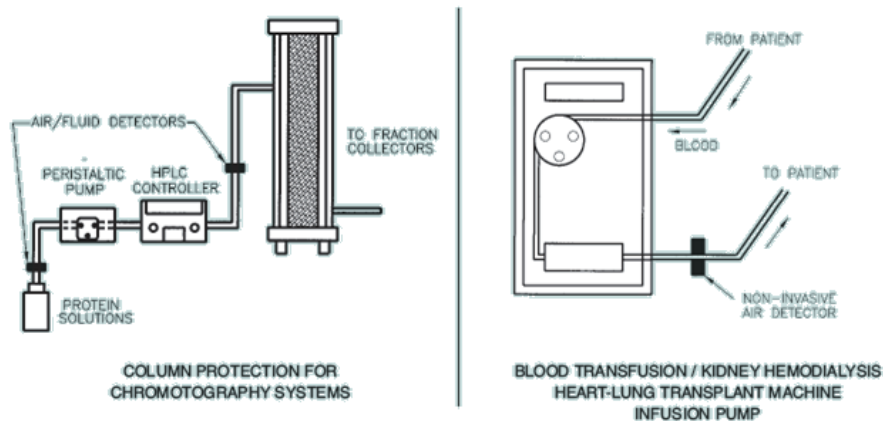


Figure 1: Applications of AD-101 series elements

OPERATION

The Model AD-101 consists of an ultrasonic sensor and electronic control unit, integral or remotely mounted. The electronics generate an ultrasonic signal that completely illuminates the liquid flowing through the tube. The presence of a bubble or foam in the liquid will interrupt the transmission and generate an output. This output will then provide a real-time indication of the disturbance in the liquid.

AD-101 Series

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