The **A230 Bubble Sensor** is one of our standard sensors for use with the most 1/8 inch OD tubing. It uses our proprietary digital noninvasive ultrasonic bubble sensing technology to accurately and reliably detect bubbles in a wide variety of fluids in rigid or soft tubing materials. Custom characteristics can be provided for OEM users.

### Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube Size</td>
<td>1/8” OD Nominal</td>
</tr>
<tr>
<td>Bubble Size</td>
<td>Customer Selectable</td>
</tr>
<tr>
<td>Sensor Input</td>
<td>See Product Configuration</td>
</tr>
<tr>
<td>Sensor Output</td>
<td>High: Liquid</td>
</tr>
<tr>
<td>Response Time</td>
<td>50 Microseconds (Typical)</td>
</tr>
</tbody>
</table>

### Lead Out:

- Red: VCC
- Black: Ground
- Green: Output
- White: Test (Optional)

### Features:

- Integrated self-test function
- Power consumption as low as 3mA on some models
- Dry-couples with a variety of tubing materials
- Custom pinouts, cables, and connectors available
- Digital “smart” circuit for superior customability
- Noninvasive ultrasonic bubble sensing technology
- Optional red/green LED for visual output indication

### Applications:

- Medical Instrumentation
- Semiconductor Processing
- Food Dispensing Equipment
- Chemical Processing
- Pharmaceutical Industry
**Product Configuration**

**A230 - S LTD**

**Mounting Options**
- **S**: #4-40 Threaded Inserts
- **M**: M2.5 Threaded Inserts

**LED Configurations**
- **L**: With Red/Green LED to indicate output

**Test Pin Functionality**
- **D**: Test Pin Disabled
- **E**: Test Pin Enabled (Contact SMD)

**Electronic Configuration**
- **T**: Supply Voltage: 5-15 VDC
  - Output Signal: 5V TTL
    - High: >4.3 VDC
    - Low: <0.6 VDC
    - 3mA Max
- **P**: Supply Voltage: 5-24 VDC
  - Output Signal: PNP/Sourcing
    - High: >Vs supply - 0.5V
    - Low: Open, 10K Pull-Down
    - 300mA Max

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