



Operating Parameters & Specifications

- Temperature range: 0°C - 40°C
- Response time: 0.2ms
- Input: 5VDC-24VDC
- Output: 3.3 V TTL Logic

AD-101

Air Bubble Detector

Bubble detection is critical in applications such as infusion pumps, hemodialysis and blood flow monitoring. TE Connectivity (TE) has developed a new compact AD-101 Air Bubble Detector (ABD) for non-invasive continuous monitoring of fluid for air bubble detection. Using ultrasonic technology, the AD-101 sensor is capable of positively identifying the presence of a break in flow of any type of liquid.

Features

- Detects bubble size as small as 70% of tubing inner diameter
- Tubing outer diameters of 4mm and 6mm standard (sensor can be customized to tubing outer diameters between 3 and 10 mm)
- Non-invasive design eliminates sterility and fluid compatibility concerns
- High noise immunity to EMI/RFI
- Acoustic coupling agent not required
- Integral electronics
- Power-on and continuous self-diagnostic tests to confirm functionality
- LED indication of sensor wet and dry state visible through housing

Applications

- | | |
|------------------------------|----------------------------|
| • Infusion Pump | • Hemodialysis |
| • Apheresis/Auto-transfusion | • IN-VIVO Detection of Gas |
| • Biotech/DNA Analysis | • Hydroponics |
| • Blood Processing | • Smart Farming |
| • Immunoassay | • Food Processing |
| • Chemical Analysis | |

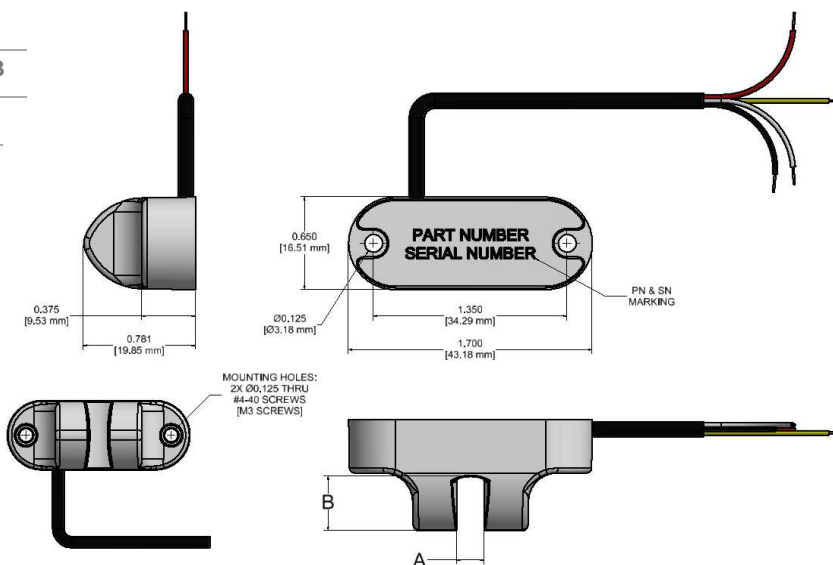
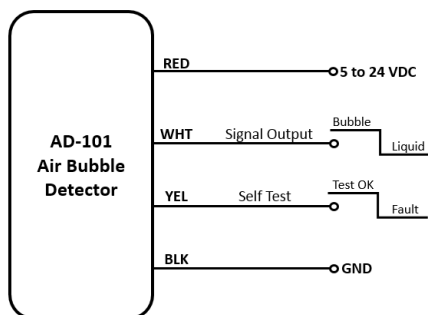
AD-101

Air Bubble Detector

Standard Tube Slot Dimensions

| P/N | Dimension A | Dimension B |
|-----------|-------------|-------------|
| 071-06403 | 3.2 mm | 8.0 mm |
| 071-06402 | 4.8 mm | 10.3 mm |

Schematic



Specifications

| | |
|-------------------------|---|
| Input | Red = 5 – 24 VDC Black = GND |
| Sensor Output | White = Output 3.3V TTL, Low When Liquid Present, High When Bubble Present |
| Self-Test Output | Yellow = Self-test output, 3.3V TTL, High When Pass, Low When Fault |
| Response Time | 0.22 Milliseconds |
| Temp. Range | 0 to 40°C |
| Bubble Size | Smallest bubble detected = 70% of tubing I.D. |
| Material | ABS/PC (55/45) Plastic Blend, Injection Molded Parts, UL 94 V-2 Rated |
| Cable | 4 Conductor 28AWG, 350mm Long UL Style Number 2725 |
| Electronics | Integral |

Pin Out

| Pin | Color | Function |
|-----|--------|------------|
| 1 | Black | GND |
| 2 | White | Output |
| 3 | Yellow | Self-test |
| 4 | Red | 5 - 24 VDC |

Part Number Description

| | |
|--------------------------|---------------------------------|
| 071-06403 or 10217784-00 | AD-101 compact ABD assembly 4MM |
| 071-06402 or 10217758-00 | AD-101 compact ABD assembly 6MM |

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
Tel 800-522-06752 (option 2)
customercare.hmp@te.com

EUROPE

Measurement Specialties, (Europe) Ltd.,
a TE Connectivity Company
Tel +31-73-624-6999
customercare.dtm@te.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
Tel 400-820-6049
customercare.shzn@te.com

神州融安科技（北京）有限公司

电话：010-62127688、82057633

地址：北京市海淀区花园路2号牡丹科技楼B座三层B308室

网址：www.ronganchina.cn

TE.com/sensorsolutions

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