

Advanced Non-Invasive Air Detection For Reliable Fluid Monitoring



Non-Invasive Detection

Utilizes sound wave technology to monitor fluid paths without contacting the liquid.



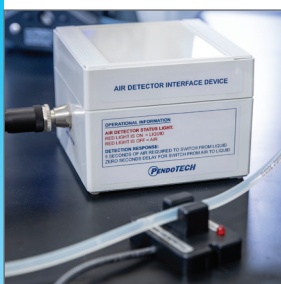
Broad Compatibility

Functions effectively in all types of tubing, including non-transparent materials.



Reliable Output and Alerts

Provides a digital 5V output for air and 0V for liquid and can detect bulk air when more than half of the tubing cross-section is empty.



Efficient Control Mechanism

Equipped with dry contact relay signals that enable automatic pump operation based on liquid detection.



Enhance Fluid Process Control With Pendotech Air-in-Tube Detector

METTLER TOLEDO Pendotech's air detector reliably monitors fluid flow in tubing by detecting the presence of air or liquid using sound wave technology. It is commonly used to prevent air from entering chromatography columns, signal the end of filtration batches, and monitor bioreactor feed lines. The design enhances usability by allowing tubing to slide in smoothly and employs proven medical-grade technology. An integrated red LED illuminates when liquid is detected. It features an 8-foot (2.4 m) cable with a male M12 connector for straightforward pump integration, plus a built-in 5-second delay to prevent accidental pump shutdown due to transient bubbles. It is available in panel mount and direct pump interface versions, the panel mount model provides a compact solution compatible with 1/8-inch ID and 1/4-inch OD tubing, with wiring that integrates neatly into the panel from underneath to avoid exposed cables. The Air Detectors support direct interfacing with pump shut-off mechanisms and include cables compatible with most pump models, ensuring seamless connectivity and operation.

Specifications

Power	AD-XX: 24 VDC ADP-XX: 5 VDC
Current Consumption	50 mA +/-
Response Time	Wet to Dry (liquid to air) 200 μ S maximum Dry to Wet (air to liquid) 11 mS minimum
Output Pulse Width	The output will continue to indicate the presence of air for a minimum of 11 milliseconds after the bubble has passed through the sensor to allow fast moving bubbles to be detected
Liquid	Bubbles will be detected when in the size of greater than 50% of the tubing inner diameter in almost any liquid, however, groups of micro-bubbles or foam will also be detected as bubbles
Temperature Limits	Operating: +41° to +140°F (+5° to +60°C)
Humidity	0 to 95% Non- condensing
Output Signal	Digital 5 V Output with air = 5 V output, liquid = 0 V output
IP Rating	IP55
Regulatory Compliance	CE, REACH, RoHS3

AD-XX

Wiring Information				
Pin # (male)	1	2	3	4
Wire Color	Red	Orange	Black	Green
Function	+24 VDC	Signal	Ground	Ground

*Add -P to end of part # for Mini-Con connector to Pendotech Systems

**Other sizes available, for more information contact Pendotech

^ Also works with Size 24 tubing

Ordering Information	Order Number
Panel mount ultra-sonic air in tube detector - 1/4 inch OD tube	ADP-16
Air Detector 5 V digital output signal to activate Solid State Relay Signal for 5-48 VDC, 3 amp MAX	AD-TTL-RLY
24 VDC to 5 VDC DIN rail mount power converter to power ADP Air detector	AD-24-V

Air Detectors for Direct Pump Interface

Ultra-sonic Air-in-tube Detector with 5 second delay - 1/4 inch OD tube, 24 VDC	AD-16-D
Ultra-sonic Air-in-tube Detector with 0.5 second delay - 1/4 inch OD tube, 24 VDC	AD-16-D500
Ultra-sonic Air-in-tube Detector with 5 second delay - 3/8 inch OD tube, 24 VDC	AD-17-D
Ultra-sonic Air-in-tube Detector with 0.5 second delay - 3/8 inch OD tube, 24 VDC	AD-17-D500
Ultra-sonic Air-in-tube Detector with 5 second delay - 3/4 inch OD tube, 24 VDC	AD-82-D
Air Detector Pump Interface Box for Delay Detection Units, 24 VDC (LxWxH 11.9 cm x 11.9 cm x 9 cm, 4.69 in x 4.69 in x 3.54 in)	AD-PUMP-BOX
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Masterflex BT pump 18 pin remote connector, 2 m	AD-PB-MF18-BT
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Masterflex DB9 remote connector, 2 m	AD-PB-MF9B
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Masterflex DB15 remote connector, 2 m	AD-PB-MF15
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Masterflex IP 31 pin remote connector, 2 m	AD-PB-MF31
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Masterflex DB25 remote connector, 2 m	AD-PB-MF25
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Watson Marlow DB25 remote connector, 2 m	AD-PB-WM25
Cable from Air detector pump box (AD-PUMP-BOX or PMAT SS Enclosure) to Q1200HT Pump remote connector, 2 m	AD-PB-Q1200HT