

# LifeGuard® Ultrasonic Air Bubble Detector

## TYPICAL APPLICATIONS

- Medical equipment
- Laboratory
- Pharmaceutical
- Food and beverage processing
- Industrial / automation
- Automotive industry
- Oil and gas production
- Energy
- Commercial Off-The-Shelf (COTS) for defense applications

## FEATURES

- Detectors maintain precise sensitivity without calibration
- Extremely reliable swept-frequency technology prevents sensor performance from drifting with temperature, age or environmental conditions
- Integrated self-test function provides 100% single fault coverage
- Dry-couples to PVC, silicone and many other tubing types with thick, thin or reinforced walls
- Output pulse width is proportional to bubble size — allowing user's system to monitor subcritical bubbles
- Chemically compatible with common medical grade cleaners
- Vibration resistant
- Wide temperature range stable
- High reliability: > 1 M hours MTBF
- Proven performance in life critical equipment
- Low power consumption
- RoHS compliant
- Designed and manufactured in the United States



***Extremely accurate and non-invasive ultrasonic air-in-line sensors that integrate application flexibility with proven, reliable performance.***

LifeGuard® air-in-line sensors offer the most flexibility in air bubble sensor sizes, with three standard configurations for common tubing sizes. Additionally, production performance equivalent (quick-turn) custom sensors for use with any tubing size are available utilizing in-house 3D printing capabilities.

All LifeGuard electronics are integrated into the sensor housing, ready to interface with the user's system. The LifeGuard line of sensors and sensing capabilities offers the perfect starting point for your engineering project.

Moog's engineering team specializes in custom sensor development. We are available for consultation to help you tailor a sensor for your specific application.

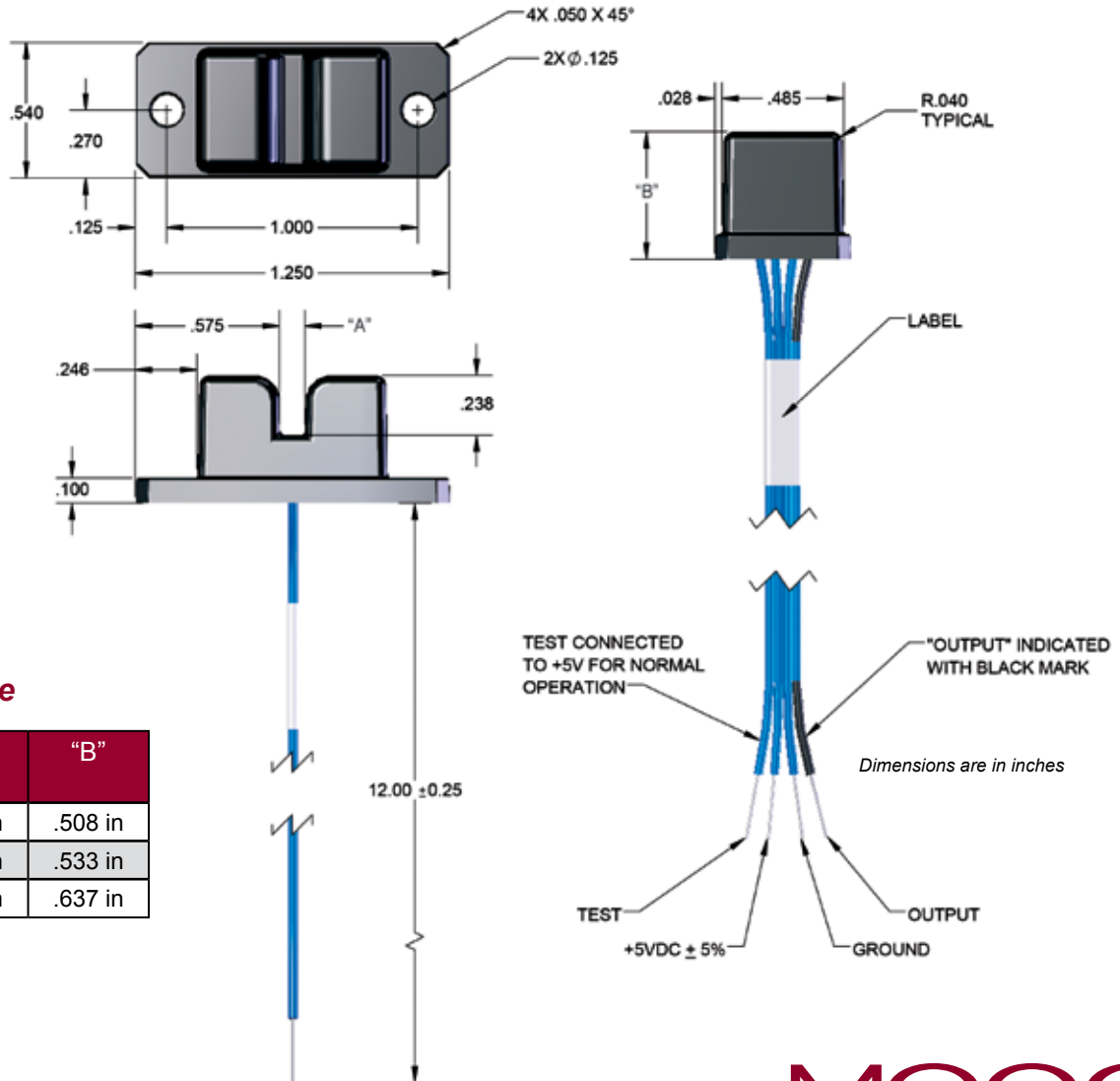
**MOOG**

# LifeGuard® Ultrasonic Air Bubble Detector

## SPECIFICATIONS

	Channel Size	Nominal Tubing Size	Air Detection Threshold	Mounting	Footprint Size	Hole Spacing
<b>LifeGuard 100</b> Part No: 53088	.100 in (2.5 mm)	.125 in (3.2 mm) OD	> 10 microliter	Any orientation	1.25 in x .5 in (31.8 mm x 12.7 mm)	1.00 in (25.4 mm)
<b>LifeGuard 130</b> Part No: 52861	.130 in (3.3 mm)	.155 in (3.9 mm) OD	> 20 microliter	Any orientation	1.25 in x .5 in (31.8 mm x 12.7 mm)	1.00 in (25.4 mm)
<b>LifeGuard 200</b> Part No: 53089	.200 in (5.1 mm)	.250 in (6.4 mm) OD	> 40 microliter	Any orientation	1.25 in x .5 in (31.8 mm x 12.7 mm)	1.00 in (25.4 mm)
<b>Quick-Turn 3D Printed Prototypes</b>	Dependent on nominal tubing size	.060 in - 1.50 in OD (1.5 mm - 38.1 mm)	Variable, depending on configuration	Any orientation	Variable	Variable
<b>Custom Sensor Solutions</b>	Specifications are custom designed to meet customer's specific project requirements.					

## Dimensions



## Tubing Size Range

Part Number	"A"	"B"
53088	.100 in	.508 in
52861	.130 in	.533 in
53089	.200 in	.637 in