BANNER®

more sensors, more solutions

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U-GAGE® ULTRASONIC Sensors

Banner U-GAGE® ultrasonic sensors solve difficult applications in your plant.

Ultrasonic sensors that think as well as they hear.

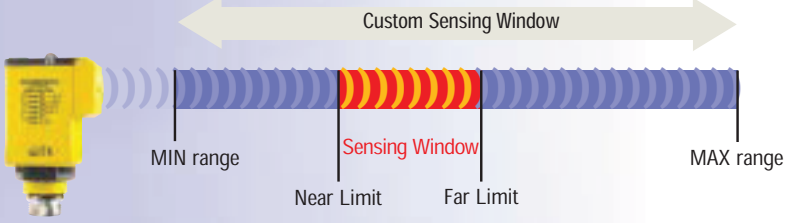
Banner has reinvented ultrasonic sensing to be infinitely more accurate, versatile and effective in solving some of the nastiest applications you face. We have applied our industry-leading photoelectric sensor technologies to a new line of advanced ultrasonic sensors. If you've never tried ultrasonic sensors, or if you've tried them unsuccessfully before, try them again. You'll find our U-GAGE sensors to be the most advanced and capable ultrasonics ever.

Superior measurement accuracy with microprocessor control.

U-GAGE sensors offer incredible accuracy with resolutions from 0.1% to 0.25% of the sensing distance to solve tough measurement applications never before possible. Our sophisticated microprocessor control and proprietary firmware ensures consistent sensing performance in a wide variety of applications.

So versatile, a single sensor can solve thousands of applications.

U-GAGE technology allows you to set an infinite number of ranges and sensing windows with a single sensor by simply pushing a button. Now you can inventory one or two sensors that replace literally hundreds of older-style, fixed-range sensors. You can also choose from numerous housing styles that fit your application and preference. Models are available with multiple outputs, including some that offer both analog and discrete outputs in the same sensor!



Survives the environment and your most difficult sensing applications.

Banner U-GAGE sensors are leakproof and designed to withstand extremely hostile environments including outdoor use, with ratings up to IP67 and NEMA 6P. They are also inherently immune to target color differences and high-power light interference —even sunlight won't affect their performance. They are immune to all light reflections, making them perfect for problematic clear-material sensing applications.

U-GAGE®: The industry's most advanced ultrasonic sensing features.

A new innovation in programming versatility and ease-of-use.

Now setting an infinite number of sensing ranges and windows is simple! With a push button right on the sensor housing or the turn of a screw, Banner ultrasonic sensors offer selectable negative or positive slope for analog sensing. Users can also choose from a variety of options for ON/OFF or High/Low level control. A remote programming option is available that can also be used to disable the push buttons to prevent unwanted tampering.

Wide choice of ranges and unique retrosonic mode.

Available in models with sensing ranges from 30 mm to 8 m and sensing resolution from 0.1% to 0.25% of the total sensing distance, their sophisticated microprocessor design ensures consistent performance across the entire sensing range, even with changing ambient conditions. Many models feature a retrosonic mode: the sensor is taught a distinct point within its sensing range and will detect any object regardless of shape, size or reflective angle that crosses between the sensor face and the taught point.

Temperature compensation.

Because the speed of sound changes 1.8% per 10°C, many Banner ultrasonic sensor models feature special temperature compensation circuitry to stabilize window limit trip points for applications where the ambient operating temperatures will vary.

Use an ultrasonic sensor when your application requires:

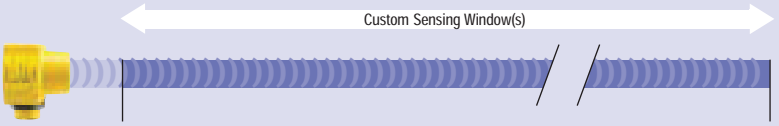
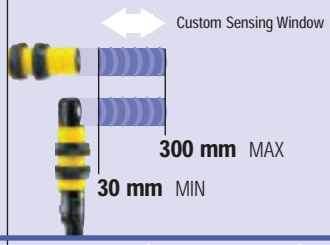
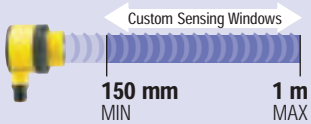
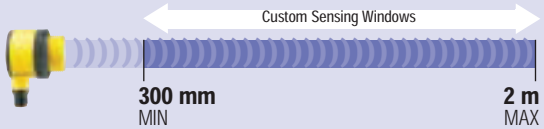
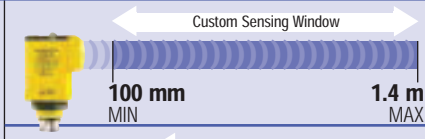
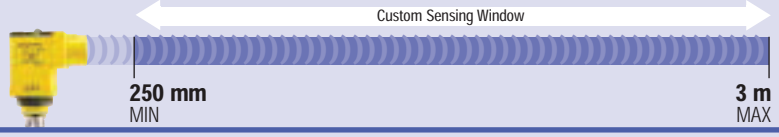
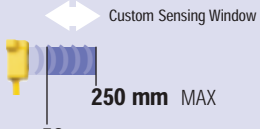
- Precise user-defined sensing windows.
- Reliable background suppression proximity sensing.
- Positive clear-object detection.
- High accuracy in wet or dirty environments.
- Liquid level measurement.
- Immunity to surface color changes.
- Accurate detection of highly reflective targets.
- Reliable operation in high glare or sunlight.

Use an optical sensing method if your application requires:

- A visible sensing spot on the target.
- Operation in a windy environment.
- Operation in high temperature gradients.
- Sensing through a sight glass as in a vacuum environment.
- Small spot or target size detection.
- Sensing of an angled surface.
- Fast, sub-millisecond response time.
- Accurate detection of low-density materials.

Visit www.bannerengineering.com for a complete listing of available optical sensing solutions.

Banner gives you the widest selection of ultrasonic models and features.

Model	Housing	Range	Output Configuration	
QT50U Long-Range Programmable 75 kHz			Dual Discrete	Both NPN or Both PNP[1]
			Analog	0 to 10V dc or 4 to 20 mA[1]
S18U Compact 18 mm Threaded Barrel 300 kHz			Discrete	Bipolar-NPN and PNP
			Analog	0 to 10V dc or 4 to 20 mA[3]
T30U Compact 30 mm Threaded Barrel Short Range: 228 kHz Long Range: 128 kHz			Dual Discrete	Both NPN or Both PNP[3]
			Discrete and Analog	NPN or PNP 0 to 10V dc or 4 to 20 mA[3]
Q45U Medium-Range Programmable Short Range: 230 kHz Long Range: 128 kHz			Discrete	Bipolar-NPN and PNP
			Analog	0 to 10V dc or 4 to 20 mA[1]
Q45UR Short-Range Remote Head 400 kHz			Discrete	Bipolar-NPN and PNP
			Analog	0 to 10V dc or 4 to 20 mA[1]
T18U Medium-Range Opposed 230 kHz			Complementary NPN or PNP (1 N.O. 1 N.C.)[3]	

[1]Selectable via dip switch. [2]Selectable via wiring. [3]By model. [4]Icons represent fastest response time for product.