Maxbotix Weather-Resistant Ultrasonic Rangefinder – MB7092 XL-MaxSonar-WRMA1

Product ID: 1137

Description

Take your sonar outside – great for all-weather robots! The XL-MaxSonar-WRMA1 ignores smaller targets and only reports the range to target with the largest acoustic return. This is our most advanced weather-resistant sensor designed for target detection and ranging outdoors or in tank or bin applications.

The weather-resistant XL-MaxSonar-WRMA1 is a rugged ultrasonic sensor component module. This outdoor sensor provides very short to long-distance detection and ranging in a compact, robust PVC housing. The ultrasonic sensor meets the IP67 water intrusion standard and matches standard electrical 3/4-inch PVC pipe fittings.

High output acoustic power combined with continuously variable gain, real-time background automatic calibration, real-time waveform signature analysis, and noise rejection algorithms results in virtually noise-free distance readings. This holds true even in the presence of many of the various acoustic or electrical noise sources. The XL-MaxSonar-WR sensors are factory calibrated to match narrow sensor beam patterns and provide reliable long-range detection zones.

YouTube Link:

https://www.youtube.com/watch?t=566&v=O5l7IOmnD2Q&embeds_referring_euri=https%3A%2F%2Fwww.adafruit.com%2F&feature=emb_imp_woyt

Technical Details

Dimensions:

- Length: 71.09mm/2.80in
- Width/Height: 43.84mm/1.73in
- Weight: 49.66g/1.75oz
- Resolution of 1 cm
- 10Hz read rate
- 42kHz Ultrasonic sensor measures distance to objects
- RoHS Compliant
- Read from all 3 select sensor outputs: Analog Voltage, Serial, Analog Envelope
- Operates from 3.0-5.5V
- Low 3.4mA average current requirement
- Small, lightweight module
- Designed for easy integration into your project or product
- Operational Temperature from -40°C to +70°C (-40°F to +160°F)
- Real-time automatic calibration (voltage, humidity, ambient noise)
- Firmware filtering for better noise tolerance and clutter rejection
- 200,000+ Hours Mean Time Between Failure
- Weather Resistant (IP67)
- Matches standard electrical 3/4-inch PVC pipe fittings for easy mounting
- (3/4" National Pipe Thread Straight)
- Additional stability filter rejects occasional anomalous readings
- Detects the largest signal return in the field of view
- Uses the complete dynamic range of the sensor, if no large targets are present the sensor will select the next smallest target in view
- Can be used to range large objects behind small obstructions
- Analog envelope output for easy troubleshooting and signal processing
- Maximum range of 765 cm (300 inches)
- Long range, narrow detection zone