



MassaSonic Gizmo® Sensors

IoT Wireless | Non-Contact | Reliable | Fast |

The MassaSonic Gizmo® redefines what is thought to be possible in a wireless ultrasonic sensor. Gizmo combines advanced wireless communication, durable design, and sophisticated sensing & processing, all in a user-friendly package. The Gizmo is uniquely capable in a variety of applications & environments where remote sensing is desired.

MassaSonic Gizmo Features:

- High performance ultrasonic measurement with accuracy within 0.1% of target range
- Robust and dependable design
- Measurement range of 4 inches to 20 feet
- User Friendly Interface
- WiFi, Cellular and LoRa models coming soon
- Manufactured in the U.S.A.

Gizmo Sensor capabilities are a sound choice for a variety of applications and environments where remote sensing is desired or required.

MassaSonic Gizmo

The Gizmo is the ideal choice for remotely monitoring non-hazardous materials and environments anywhere that requires wireless connectivity. This product is cost-effective, versatile and capable of remotely monitoring a variety of different materials (both liquid and solid) in several different environments (tanks, basins, collection points, flood zones, and more).

Gizmo includes:

- User friendly operation with easy installation.
- Measure and store information such as range, temperature, battery voltage, and other sensor metrics at user-set time intervals.
- An internal pushbutton or magnetic switch wakes Gizmo for range measurement and provisioning. An LED identifies the operating mode.
- Diagnostic tools to capture and display waveforms that are useful for sensor optimization and critical to troubleshooting. Remote access to these features removes the need for additional test equipment, such as an oscilloscope.



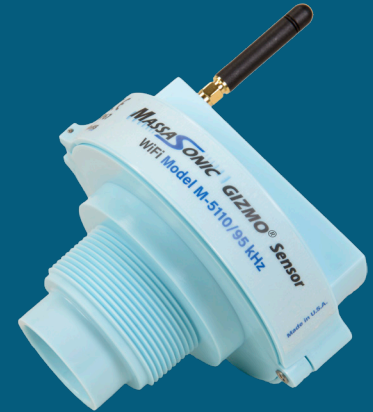
GENERATIONS AHEAD IN SONAR & ULTRASONIC TECHNOLOGY

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MassaSonic Gizmo® Sensor

FEATURES

- Secure Encrypted Wireless Connections
- Low Power Consumption
- Easily Replaceable Long-Life Batteries
- Chemically Resistant PVDF Construction
- Built-In Temperature/Sound Speed Compensation
- Cost Efficient

APPLICATIONS

- Liquid & Solid Level Monitoring
- Drums, Totes, and Tanks
- Outdoor Stockpiles
- Waste Basins and Flood Zone Monitoring
- Oil Patch, Mine, and Chemical Operations
- Remote, Quick Set-Up Sites
- Hazard Zones

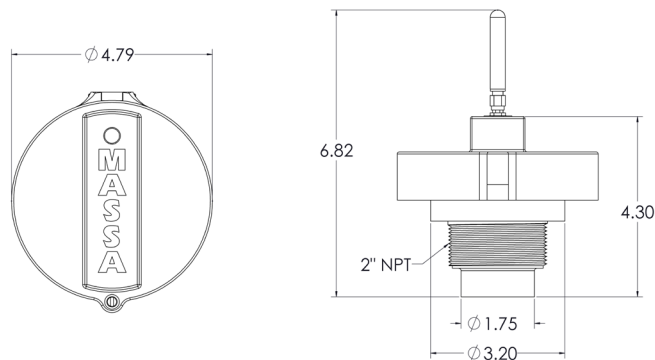


MassaSonic Gizmo® Specifications

(22°C, and 50% RH Air)

Performance		
	Short Range (150 kHz)	Medium Range (95 kHz)
Target Detection Distances	4 inches (100 mm) to 9 feet (2.7 m)	8 inches (200 mm) to 20 feet (6 m)
Measurement Resolution	0.01 inches (0.25 mm)	0.01 inches (0.25 mm)
Measurement Accuracy	± 0.1% of Target Range	
Echo Detection Sensitivity	User-Defined	
System Beam Angle	8° Conical	
Data Acquisition Interval	Programmable from 1 event every 30 seconds to 1 event every 7 days	
Saved Data Events	Up to 1,000 events of sensor data saved in memory, includes target range, temperature, battery voltage, sensor status, and time stamp	
Temperature Compensation	Internal Probe	
User Switches	Pushbutton switch wakes Gizmo for a measurement or communication provisioning.	
	Magnetic switch serves the same functions while allowing the user to trigger it with a magnet, without opening the sensor's cover.	
Gizmo Communication	JSON over MQTT, JSON over TCP	
Battery Power	3 AA Li-SOCl ₂ Internal Battery (<i>Soft LS 14500</i>)	
	Various Sized External Battery Pack Options (<i>consult factory</i>)	
Line Power	Option for cover mounted weather-proof connector for a DC power source (<i>consult factory</i>)	
FOTA Capable	Firmware Over-the-Air Update	
Certifications	RoHS and CE Compliant; IP67	

Mechanical	
Operational Temperature	-30°C to 70°C
Storage Temperature	-40°C to 85°C
Relative Humidity	0 to 95%, non-condensing
Enclosure Rating	NEMA 4X, IP67
Enclosure Material	Chemically Resistant PVDF
Enclosure Mounting Thread	2" NPT



Gizmo Sensors Outline Dimensions (inches)

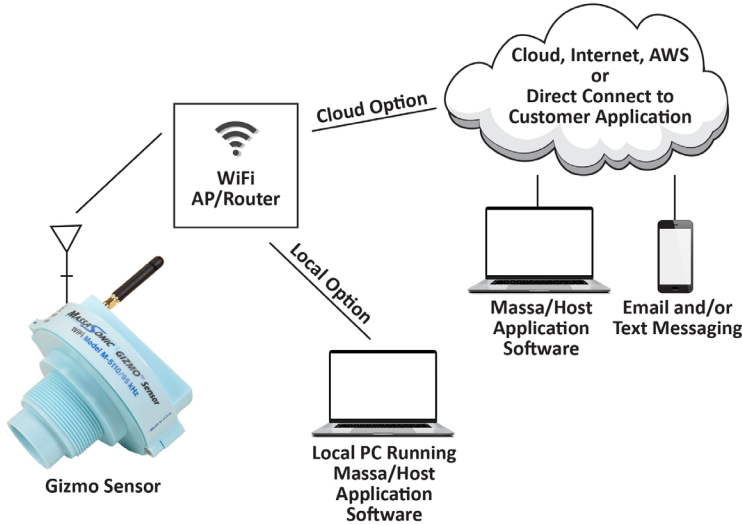
All Specifications Subject to Change Without Notice
www.massa.com

MassaSonic Gizmo® Overview

The MassaSonic Gizmo Supports industry communication standard JSON data interchange and MQTT protocol.

The WiFi Gizmo Sensor is designed to work with the ubiquitous, already installed, In-plant WiFi networks. Once provisioned, the WiFi sensor connects to the facility’s network and passes data to either a local host or a cloud-based datacenter. WiFi provisioning and sensor maintenance are made easy with the Gizmo’s embedded service. Using Gizmos MassaSonic Multi-Sensor Application (MMSA), user can adjust network settings and sensor configuration.

Overview of Operation and Communication



WiFi Module	WiFi 802.11 b/g/n
Connections	Direct to local host or via router to a cloud-based datacenter
Sensors / Network	One to hundreds through multiple access points
Antenna Options	Internal when distances to AP are short External RP-SMA mount
Security	AP Login WPA, WPA2, WPA2-PSK, WEP Encrypted Data over TCP/TLS
Provisioning	Embedded provisioning server
Wireless Protocol	Configurable as JSON over MQTT, JSON over TCP
FOTA Capable	Firmware Over-the-Air Update
Certification	FCC, Industry Canada (IC), CE/RED, Japan, WiFi