

# LoRaWAN® Wireless Temperature & Temperature/ Humidity Sensors



Radio Bridge LoRaWAN® Wireless Temperature Sensors are designed to accurately detect ambient air temperature, and air temperature and humidity. LoRaWAN sensors are available for both indoor and outdoor/industrial use.

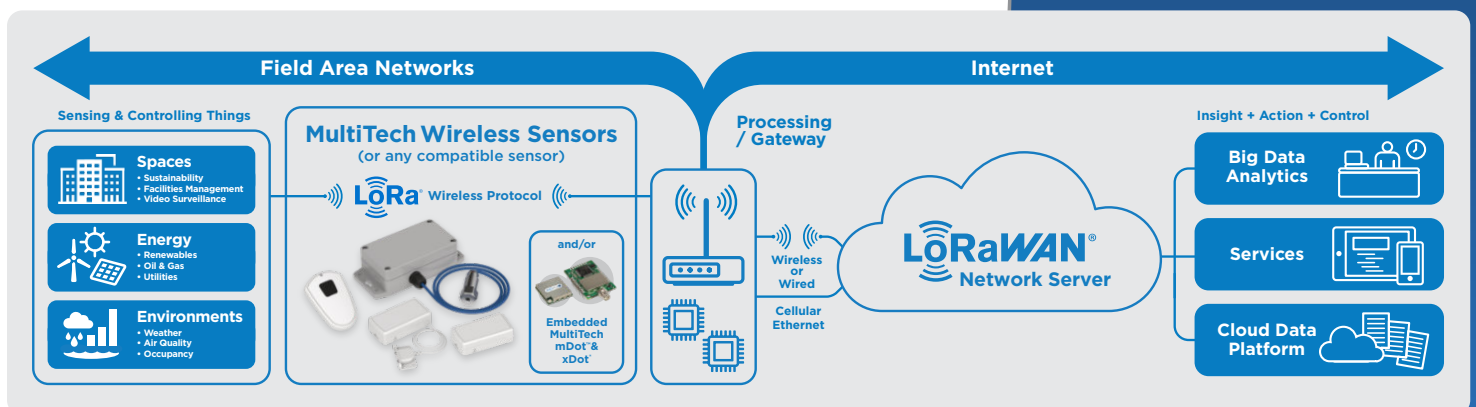
LoRaWAN wireless sensors make it easy to connect sensor data to your applications. Best in class RF performance enables sensors to work in environments where others fail. Advanced power management provides maximum battery life. Sensors can be configured over the air, enabling them to be optimized, before and after installation, for the most optimum reporting intervals or thresholds to provide the data that is important to your application, when you need it.

## BENEFITS

- Open architecture for flexible integration with any LoRaWAN network
- Also available is an optional web-based service for provisioning, monitoring, and configuration of sensors in the field
- Seamlessly integrate with any LoRaWAN gateway in addition to the MultiTech portfolio of LoRaWAN gateways

## FEATURES

- Based on LoRaWAN wireless technology
- Optimized Radio performance by balancing performance with long battery life and excellent network performance
- Very long range, up to several miles
- Excellent wireless penetration through structures such as walls and floors
- Automatic error reporting through supervisory messages
- Over the air configuration
- Seamless integration into any cloud service. BACnet integration through MultiTech Gateways.



# LoRaWAN® Wireless IoT Sensors

## Long-range wireless sensors for the Internet of Things (IoT)

Radio Bridge LoRaWAN® wireless sensors, utilize the LoRaWAN wireless standard and are all engineered for long-range, low cost, and extended battery life applications. These sensors deliver critical asset information so you understand what's happening and can react quickly when needed.

### Sensor / Item

### Description

### Applications



#### LoRaWAN Temperature Sensor with External Probe for Indoor Use

This sensor uses an external probe to measure temperatures. Ideal for food service, cold chain monitoring, restaurants, laboratory monitoring, server rooms and warehouses. If the temperature rises above or falls below the configured threshold, an alert is sent to the wireless network.



#### LoRaWAN Probeless Temperature Sensor for Indoor Use

This sensor measures the temperature of the air surrounding the sensor without any external probes such as a thermocouple or thermistor. Ideal for smart building applications, it can be used for detecting freezing temperatures to protect plumbing and other infrastructure, detect heat failure in second homes or remote buildings, restaurant food safety, detecting cooling system failures, industrial temperature monitoring and general low precision ambient temperatures.



#### LoRaWAN Probeless Temperature & Humidity Sensor for Indoor Use

The wireless temperature and humidity sensor uses air flow to measure temperature and humidity levels with accuracies of +/- 0.1°C and +/- 1.5 %RH respectively.



#### LoRaWAN Air Temperature and Humidity Sensor with External Probe for Outdoor/Industrial Use

This sensor uses air flow through a sintered porous stainless steel filter to allow for temperature and humidity measurements in outdoor and industrial environments. The sintered porous filter is IP54 rated to protect against dust and debris. This sensor can also be used for detecting freezing temperatures to protect plumbing, detect heat failure in second homes or remote buildings, detecting cooling system failures, and industrial temperature monitoring.



#### LoRaWAN Temperature Sensor for Outdoor/Industrial Use

This sensor uses an external probe to measure temperatures. Ideal for food service, cold chain monitoring, restaurants, laboratory monitoring, server rooms and warehouses. If the temperature rises above or falls below the configured threshold, an alert is sent to the wireless network.



#### LoRaWAN Thermocouple Temperature Sensor for Outdoor/Industrial Use

This sensor measures temperature using an external K-type thermocouple. Other thermocouples may be used and can be configured via downlink messages. Multiple thermocouple types supported: B, E, J, K, N, R, S and T. The enclosure is suitable for outdoor and industrial use. Applications include gas turbine exhaust, diesel engines, industrial processes, flame sensor, petroleum refineries, appliance heating, and food processing and production.

- Food Service
- Cold Chain Monitoring
- Buildings, Retail, Restaurants
- Laboratory Monitoring
- Server Room Monitoring
- Warehouse Monitoring

## Radio Bridge Console

The Radio Bridge Console is an optional web-based fully integrated solution that provides sensor configuration, LoRaWAN Network Server management, configurable alerts and notifications. Sensor visualization enables you to deploy and validate your sensor-to-cloud solution immediately, without spending weeks or months on system integration efforts.

**LEARN MORE:** [radiobridge.com/software/device-management-console](http://radiobridge.com/software/device-management-console)



### SENSOR SPECIFICATIONS OVERVIEW

Item / Type	Description		Description		Description		Description		Description
LoRa® Region	US/Canada	Europe/ United Kingdom	US/Canada	Europe/ United Kingdom	US/Canada	Europe/ United Kingdom	US/Canada	US/Canada	US/Canada
Sensor Type	LoRaWAN External-Probe Temperature (Indoor Use)	LoRaWAN External-Probe Temperature (Indoor Use)	LoRaWAN Probeless Temperature (Indoor Use)	LoRaWAN Probeless Temperature (Indoor Use)	LoRaWAN Probeless Air Temperature & Humidity (Indoor Use)	LoRaWAN Probeless Air Temperature & Humidity (Indoor Use)	LoRaWAN External-Probe Air Temperature & Humidity (Outdoor/Industrial Use)	LoRaWAN External-Probe Temperature (Outdoor/Industrial Use)	LoRaWAN Thermocouple Temperature (Outdoor/Industrial Use)
Part Number	RBS3010 NA05BN00	RBS3010 EU05BN00	RBS3010 NA19BN00	RBS3010 EU19BN00	RBS3010 NA0EBN00	RBS3010 EU0EBN00	RBS306- ATH-EXT-US	RBS306- TEMP-EXT-US	RBS306- TEMP-TC-US
LoRa® Wireless									
Frequency Band (MHz)	902-928	863-870	902-928	863-870	902-928	863-870		902-928	
Channel Plan	US915	EU868	US915	EU868	US915	EU868		US915	
Protocol	LoRaWAN compliant								
Antenna Peak (typical) Antenna Gain	0.8dBi	0.0dBi	0.8dBi	0.0dBi	0.8dBi	0.0dBi	1.3dBi	1.3dBi	1.3dBi
Power									
Battery Powered	Yes								
Battery Type/Qty	CR123A x 1						CR123A x 2		
User Replaceable	Yes								
Battery Life	Optimized solution: up to 10 years battery life. <a href="https://radiobridge.com/documents/Sensor%20Battery%20Estimator.xlsx">https://radiobridge.com/documents/Sensor%20Battery%20Estimator.xlsx</a>								
Physical Description									
Sensor Type	External Temperature		Internal Temperature		Internal Temperature & Humidity		External Temperature & Humidity	External Temperature	External Thermocouple
Physical Dimensions (LxWxH)	2.81" x 1.46" x 0.75" (71.37mm x 37.08mm x 19.05mm)						5.709" x 2.592" x 1.575" (145mm x 65.8mm x 40mm)		
Physical Weight	52g	52g	34g	34g	34g	34g	200g (base weight without probe: 188g)	194g (base weight without probe: 188g)	225g (base weight without thermocouple: 188g)
Enclosure Type	ABS Plastic, IP30, indoor rated						ABS Plastic, IP54, outdoor rated		
Mounting	Double Sided Tape or Screw						Screw (w/Tamper)		
Range	-40° to +50°C				-40° to +50°C (Temperature) 10-90% (Humidity)	-40° to +50°C (Temperature) 10-90% (Humidity)	-40° to +60°C (Temperature) 10-90% (Humidity)	-40° to +60°C	-200°C to +1372°C (K Type) Additional J, N, R, S, T, E and B probes may be available
Resolution	1°C	1°C	0.1°C	0.1°C	0.1°C (Temperature) 1% (Humidity)	0.1°C (Temperature) 1% (Humidity)	0.1°C (Temperature) 1% (Humidity)	1°C	0.1°C
Accuracy	+/- 1°C (1.6°F) @ 25°C	+/- 1°C (1.6°F) @ 25°C	+/-0.2°C Typ. from 0° to 50°C +/-0.6°C Typ. from -40° to 0°C	+/-0.2°C Typ. from 0° to 50°C +/-0.6°C Typ. from -40° to 0°C	+/-0.2°C Typ. from 0° to 50°C (Temp) +/-0.6°C Typ. from -40° to 0°C (Temp) 2% Typ. (Humidity)	+/-0.2°C Typ. from 0° to 50°C (Temp) +/-0.6°C Typ. from -40° to 0°C (Temp) 2% Typ. (Humidity)	+/-0.2°C Typ. from 0° to 50°C (Temp) +/-0.6°C Typ. from -40° to 0°C (Temp) 2% Typ. (Humidity)	+/- 1°C (1.6°F) @ 25°C	+/-3°C
Operating Temperature	-40° to +50°C						-40 to +70°C		
Operating Humidity	10 - 90% (non-condensing)								
Storage Temperature	-40° to +45°C								
Certifications									
Compliance	FCC/IC, REACH, ROHS	CE, RED, UKCA, REACH, ROHS	FCC/IC, REACH, ROHS	CE, RED, UKCA, REACH, ROHS	FCC/IC, REACH, ROHS	CE, RED, UKCA, REACH, ROHS	FCC/IC, REACH, ROHS		
Warranty	2-Years / <a href="http://www.multitech.com/legal/warranty">www.multitech.com/legal/warranty</a>								

## ORDERING INFORMATION

### MultiTech Sensors

Model	Description	Region
RBS3010NA05BN00	LoRaWAN External Probe Temperature Sensor for Indoor Use (1 Pk)	US/Canada
RBS3010EU05BN00	LoRaWAN External Probe Temperature Sensor for Indoor Use (1 Pk)	EU & UK
RBS3010NA19BN00	LoRaWAN Probeless Temperature Sensor for Indoor Use (1 Pk)	US/Canada
RBS3010EU19BN00	LoRaWAN Probeless Temperature Sensor for Indoor Use (1 Pk)	EU & UK
RBS3010NA0EBN00	LoRaWAN Probeless Air Temperature and Humidity Sensor for Indoor Use (1 Pk)	US/Canada
RBS3010EU0EBN00	LoRaWAN Probeless Air Temperature and Humidity Sensor for Indoor Use (1 Pk)	EU & UK
RBS306-ATH-EXT-US	LoRaWAN External Probe Air Temperature and Humidity Sensor for Outdoor/Industrial Use (1 Pk)	US/Canada
RBS306-TEMP-EXT-US	LoRaWAN External-Probe Temperature Sensor for Outdoor/Industrial Use (1 Pk)	US/Canada
RBS306-TEMP-TC-US	LoRaWAN Thermocouple Temperature Sensor for Outdoor/Industrial Use (1 Pk)	US/Canada

## Services & Warranty

MultiTech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations.

## Technical Support Services

At MultiTech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your MultiTech representative or visit [www.multitech.com/support.go](http://www.multitech.com/support.go)

## World Headquarters

Multi-Tech Systems, Inc.  
2205 Woodale Drive  
Mounds View, MN 55112 U.S.A.  
Tel: 763-785-3500  
Email: [sales@multitech.com](mailto:sales@multitech.com)  
[www.multitech.com](http://www.multitech.com)

Features and specifications are subject to change without notice.

Trademarks and Registered Trademarks: MultiTech and the MultiTech logo, Radio Bridge: Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

2024-04 • 86002267 • © 2024 Multi-Tech Systems, Inc. All rights reserved.



Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33 | [info@alcom.be](mailto:info@alcom.be) | [www.alcom.be](http://www.alcom.be)  
Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands | Tel. +31 (0)10 288 25 00 | [info@alcom.nl](mailto:info@alcom.nl) | [www.alcom.nl](http://www.alcom.nl)

