Secure, Scalable Wireless Sensors for Long Range IoT Applications

The Sentrius™ RS1xx Series is a **battery powered, long range integrated sensor platform** leveraging the benefits of LoRaWAN and Bluetooth Low Energy (BLE) connectivity. Its small, rugged form factor contains superior RF performance and flexibility with **precise temperature and humidity sensors**, and room for future expansions. At its core, the RS1xx series utilizes our field proven and reliable RM1xx module hardware, providing **LoRaWAN** options in **868 and 915MHz** frequencies, plus **BLE** for local data display, configuration, and troubleshooting. Based on the **Semtech SX1272** and **Nordic nRF51 silicon**, it offers a **LoRa range up to 10 miles** with a local 2.4 GHz connectivity option to smartphones and tablets. The RS1xx Series works with our Sentrius™ RG1xx Series of LoRa / multi-wireless gateways for simple out-of-the-box integration and is compatible with 3rd party Cloud and LoRa network ecosystem partners.

- **Multi-wireless**: LoRaWAN (868 / 915 MHz) and Bluetooth v4.2 (Central / Peripheral) with fully integrated high-performance antennas
- **Multi sensor**: Temperature and Humidity, (future options for a range of additional sensors via expansion port)

- **Fully certified** for FCC/IC/CE and Bluetooth SIG
- **Simple wireless configuration** using mobile application and BLE.
- **Harsh Environments**: Robust enclosure to serve many varied installation needs
- **Integrated out of the box networks**: Default configuration with RG1xx gateways for simple, out-of-the-box cloud connectivity
- **New**: External temperature probe units available! Visit https://connectivity.ezurio.com/rs1xx-lora-sensors for details.

Key Features

Your Wireless Network
Develop a fully owned private LoRa network to capture, route and process IoT data for your application - choose from RM1xx modules, RS1xx finished sensors, or RG1xx Gateways.

Rugged Durabilty with a Broad Sensor Array
Robust enclosures provide a robust and resilient platform for recording and delivering sensor data from a range of harsh environments.

Comprehensive Security and Reliabilty
Robust multi-layer security at each interface to safeguard your network at every level.

Broad Certification and Approvals
Ready for deployment in multiple regulatory domains - FCC, IC, CE, ASNZS, NCC, IMDA and Bluetooth SIG listing.

Platform for Building Actionable IoT Intelligence
Route sensor data to the cloud with Ezurio's simplified wireless connectivity deployment.

Personal Support for Your Implementation
Support works with Ezurio engineering to help configure and deploy your application.

Application Areas

Cold Chain Management and Food Safety

Agricultural Humidity and Environmental Monitoring

Industrial Heating and Cooling

Interested in our RS1xx External Series?
Visit https://www.ezurio.com/iot-devices/lorawan-iot-devices/sentrius-rs1xx-lora-enabled-sensors

Specifications

Category	Feature	Specification	
Chipset	LoRa®	Semtech SX1272	
	Bluetooth®	Nordic nRF51822 – 256k / 32k	
	LoRa Frequencies	863 – 870 MHz (EU), 902 – 928 MHz (US)	
Sensors	Temperature Accuracy Ranges	-10° to +85°C	(+/-0.4°C)
		-40° to +125°C	(+/-0.9°C)
	Humidity Accuracy Ranges	0 – 90% RH	(+/- 3%)
		90 – 100% RH	(+/- 4.5%)
Antenna	Integrated	Custom Ezurio antenna for 868 or 915MHz	
		Ceramic chip antenna for 2.4GHz	
Power	Battery	2 x AA - replaceable	
Software	Mobile Application	Android & iOS – Remote sensor display and/or configuration + Firmware Update	
	Data logging	10,000 measurements (256k of flash memory available)	
Storage	Status	3 – BLE and LoRa status	
LED	User Input	Multi-use – default BLE Pairing	
Button	Dimensions	116 x 91 x 34 mm	
Physical	Operating Temp.	-25° to +50°C	
Environmental	Storage Temperature	-40° to +50°C	
Regulatory	Approvals	FCC, IC, CE, Bluetooth SIG	
Warranty		1-Year Warranty	

The Sentrius™ RS1xx Series LoRa / BLE sensor features integrated antennas, temperature and humidity sensors in rugged enclosures.

Ordering Information

Part Number	Description
455-0001	Sentrius™ RS1xx Sensor – 915 MHz Temp/Humidity including LoRa and BLE – North America
455-0002	Sentrius™ RS1xx Sensor – 868 MHz Temp/Humidity including LoRa and BLE – Europe
455-00059	Sentrius™ RS1xx Sensor – 923 MHz Temp/Humidity including LoRa and BLE – Taiwan
455-00060	Sentrius™ RS1xx Sensor – 923 MHz Temp/Humidity including LoRa and BLE – New Zealand (AS923)
455-00061	Sentrius™ RS1xx Sensor – 923 MHz Temp/Humidity including LoRa and BLE – Hong Kong
455-00062	Sentrius™ RS1xx Sensor – 915 MHz Temp/Humidity including LoRa and BLE – Australia (AU915)
455-00063	Sentrius™ RS1xx Sensor – 923 MHz Temp/Humidity including LoRa and BLE – Australia (AS923)
455-00095	Sentrius™ RS1xx Sensor – 923 MHz Temp/Humidity including LoRa and BLE – Singapore

NEW: The **Sentrius™ RS1xx Series** now offers a **range of additional sensor options** available via expansion port. For more details, visit
https://www.ezurio.com/wireless-modules/lorawan-solutions/sentrius-rs1xx-lora-enabled-sensors

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