

## SECURE, SCALABLE WIRELESS SENSORS FOR LONG RANGE IOT APPLICATIONS



Laird Connectivity's Sentrius™ RS1xx External Series is a **battery powered, long range 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 a **wide-ranging external temperature probe**. At its core, the RS1xx External Series utilizes Laird's field-proven and reliable RS1xx Series hardware, providing **LoRaWAN** options in **868, 915, and 923 MHz** 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 External Series works with Laird's Sentrius™ RG1xx Series of LoRa/multi-wireless gateways for simple out-of-the-box integration and is compatible with third-party cloud and LoRa network ecosystem partners.

- **Multi-wireless:** LoRaWAN (868/915/923 MHz) and Bluetooth v4.2 (Central/Peripheral) with fully integrated high-performance antennas
- **External Sensor Probe:** Wide-ranging temperature sensor on cabled IP67 probe
- **Fully certified** for FCC/IC/CE/ASNZS/NCC and Bluetooth SIG
- **Simple wireless configuration** using mobile application and BLE.
- **Harsh Environments:** Robust IP65 enclosure to serve many varied installation needs
- **Integrated out of the box networks:** Default configuration with Laird RG1xx gateways for simple, out-of-the-box cloud connectivity

## FEATURES AT A GLANCE



### 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 DURABILITY 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 RELIABILITY

Robust multi-layer security at each interface to safeguard your network at every level



### BROAD CERTIFICATION AND APPROVALS

FCC, IC, CE, ASNZS, NCC, and Bluetooth SIG listing



### PLATFORM FOR BUILDING ACTIONABLE IOT INTELLIGENCE

Route sensor data to the cloud with Laird's simplified wireless connectivity deployment



### PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Support works with Laird engineering to help configure and deploy your application

## APPLICATION AREAS



Cold Chain Management and Food Safety



Agricultural Monitoring Applications



Industrial Heating and Cooling

## KEY SPECIFICATIONS

CATEGORY	FEATURE	SPECIFICATION
Chipset	LoRa®	Semtech SX1272
	Bluetooth®	Nordic nRF51822 – 256 k/32 k
LoRa	Frequencies	863 – 870 MHz (EU), 902 – 928 MHz (US), 915 – 928 MHz (AU + AS923)
Temperature Probe	Accuracy Ranges	-10° to 85°C (+/-0.5°C)
		-55° to +125°C (+/-0.9°C)
	Dimensions	Overall Length 1520 mm stainless steel end tube – 6.0 mm (dia.) x 213 mm (length)
Antenna	Integrated	Custom Laird antenna for 868, 915, or 923 MHz Ceramic chip antenna for 2.4 GHz
Power	Battery	2 x AA - replaceable
Software	Mobile Application	Android and iOS – Remote sensor display and/or configuration + firmware update
Storage	Data logging	10,000 measurements (256 k of flash memory available)
LED	Status	3 – BLE and LoRa status
Button	User Input	Multi-use – default BLE Pairing
Physical	Dimensions	116 mm x 91 mm x 34 mm
Environmental	Operating Temp.	-25° to +50°C (Note: External probe capable of -55 to 125°C)
	Storage Temperature	-40° to +50°C
Regulatory	Approvals	FCC, IC, CE, ASNZS, NCC, and Bluetooth SIG
Warranty		One-year warranty



The Sentrius™ RS1xx External Series LoRa/BLE sensor features integrated antennas, external temperature probe, and rugged IP65 enclosures.

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
455-00070	Sentrius™ RS1xx External Sensor – 915MHz External Temperature Probe inc. LoRa and BLE – North America
455-00069	Sentrius™ RS1xx External Sensor – 868MHz External Temperature Probe inc. LoRa and BLE – Europe
455-00064	Sentrius™ RS1xx External Sensor – 923MHz External Temperature Probe inc. LoRa and BLE – Taiwan
455-00065	Sentrius™ RS1xx External Sensor – 923MHz External Temperature Probe inc. LoRa and BLE – New Zealand
455-00066	Sentrius™ RS1xx External Sensor – 923MHz External Temperature Probe inc. LoRa and BLE – Hong Kong
455-00067	Sentrius™ RS1xx External Sensor – 915MHz External Temperature Probe inc. LoRa and BLE – Australia (AU915)
455-00068	Sentrius™ RS1xx External Sensor – 923MHz External Temperature Probe inc. LoRa and BLE – Australia (AS923)
455-00036	External Temperature Probe Only ( <b>Single</b> )
455-00036B	External Temperature Probe Only ( <b>BULK</b> – Carton Quantity: 50 pcs.)

**Note:** The external temperature probe cable assembly is not included with the Sentrius sensor enclosure and each part must be ordered individually. It's a 1-2-1 ratio of region-specific sensor to cable assembly.