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 within cabled IP67 probe
- **Fully certified** for FCC/IC/CE/ASNZS/NCC/IMDA 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
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 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

Contact Sales -   Americas: +1 262 375 4400
                  Europe: +44 1628 940 ext. 958

Korea: +82 10 2622 3935
Hong Kong: +852 2923 0610

For documentation, software, sample apps and more visit:
https://www.lairdconnect.com/wireless-modules/lorawan-solutions/sentrius-rs1xx-lora-enabled-sensors

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.	Enclosure = -25°C to +50°C / External Probe -55°C to 125°C
	Storage Temperature	-40°C to +50°C
Regulatory	Approvals	FCC, IC, CE, ASNZS, NCC, IMDA and Bluetooth SIG
Warranty		1-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 (AS923)
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)
455-00097	Sentrius™ RS1xx External Sensor – 923MHz External Temperature Probe inc. LoRa and BLE – Singapore
455-00036	External Temperature Probe Only (**Single**)
455-00036B	External Temperature Probe Only (**BULK** – 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 to 1 ratio of region-specific sensor enclosure to sensor cable assembly.
Additionally, sensor cable assemblies available as part of the Sentrius product range are **not** interchangeable between Sentrius sensor enclosures (blue housing) with an RJ45 port. The user must connect the appropriate sensor cable assembly with the intended enclosure. Please check the product description on the sensor label/part number on the packaging if in doubt.

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                 Europe: +44 1628 940 ext. 958   Hong Kong: +852 2923 0610

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https://www.lairdconnect.com/wireless-modules/lorawan-solutions/sentrius-rs1xx-lora-enabled-sensors