

SECURE, SCALABLE WIRELESS SENSORS FOR LONG RANGE IOT APPLICATIONS



Laird'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 **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 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 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 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
- **External Sensor Probe:** wide ranging temperature sensor on cabled IP67 probe
- **Fully certified** for FCC/IC/CE 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 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 Humidity and Environmental Monitoring



Industrial Heating and Cooling

KEY SPECIFICATIONS

| CATEGORY | FEATURE | SPECIFICATION |
|-------------------|----------------------|--|
| Chipset | LoRa® | Semtech SX1272 |
| | Bluetooth® | Nordic nRF51822 – 256k / 32k |
| | LoRa Frequencies | 863 – 870 MHz (EU), 902 – 928 MHz (US) |
| Temperature Probe | Temperature Accuracy | -10° to 85°C (+/-0.5°C) |
| | Ranges | -55° to +125°C (+/-0.9°C) |
| | Dimensions | Overall Length 1520mm. Stainless Steel end tube – 6.35mm DIA x 200mm Long |
| Antenna | Integrated | Custom Laird 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 (Note external probe capable of -55 to 125°C) |
| Environmental | Storage Temperature | -40° to +50°C |
| Regulatory | Approvals | FCC, IC, CE, 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 |
|-------------|--|
| 455-0013 | Sentrius™ RS1xx External Sensor - 868MHz External Temperature Probe inc. LoRa & BLE |
| 455-0010 | Sentrius™ RS1xx External Sensor - 868MHz External Temperature Probe inc. LoRa & BLE – Bulk |
| 455-0012 | Sentrius™ RS1xx External Sensor - 915MHz External Temperature Probe inc. LoRa & BLE |
| 455-0009 | Sentrius™ RS1xx External Sensor - 915MHz External Temperature Probe inc. LoRa & BLE - Bulk |
| 455-0011 | External Temperature Probe Only (Single) |