Sentrius™ RS1xx Multi-Sensor

Open/Closed Sensor with Temp and Humidity

MULTI FUNCTONAL LORA SENSOR PLATFORM FOR OPEN/CLOSED, COLD CHAIN MONITORING





Laird Connectivity's Sentrius™ RS1xx Multi-Sensor 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 multiple sensor capabilities including **Open/Closed** detection alongside **Temp/Humidity,** making it a perfect fit for cold chain applications.

The new Multi-Sensor includes an external IP67 rated magnetic reed switch. It's used to detect and report the **Open/Closed** state of a door. A dwell time parameter is set so that if the door is open for the duration of the open dwell time, an open notification is **sent over LoRaWAN**. Users can choose how often to receive messages while the door remains open.

At its core, the RS1xx Multi-Sensor utilizes Laird's field-proven and reliable RS1xx Series hardware, providing **LoRaWAN** options in **868, 915, and 923 MHz** frequencies. The RS1xx Multi-Sensor works with Laird's Sentrius™ RG1xx Gateway for simple out-of-the-box integration and is compatible with 3rd 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 Open/Closed Sensor:** IP67 rated Open/Closed contact sensor assembly with a 1830mm cable length
- **Internal Temp/Humidity:** Integrated Temperature and Humidity capabilities
- **Fully certified** for FCC/IC/CE/ASNZS/NCC and Bluetooth SIG
- **Simple wireless configuration** using mobile application and BLE.
- **Harsh Environments:** Robust IP65 sensor 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 LoRaWAN 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, ASNZ, 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

Our Tier-2 support and engineering teams work to help configure and deploy your application

APPLICATION AREAS



Cold Chain Management and Food Safety



Agricultural Humidity and Environmental Monitoring



Industrial Heating and Cooling

Contact Sales - Americas: +1 262 375 4400
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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

PRELIMINARY

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)
Integrated 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%)
External Open/Closed Sensor (magnet/contact)	Range	Operating Distance: 25 – 35mm
	Dimensions	Overall Length – inc. cable & connector: 1830mm, ±30mm Sensor Terminals – 29mm (L) x 19mm (W) x 7mm (H)
	Mounting	4 screw holes (screws NOT included) plus 3M Adhesive backing tape
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 & iOS – Remote sensor display / 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 – Main Housing	Dimensions	116 x 131 x 34 mm
Environmental	Enclosure Operating Temp. Open/Closed Assembly Operating Temp.	-25°C to +50°C (temperature range dictated by standard AA battery chemistry) -40°C to +85°C
	Storage Temperature	-40° to +50°C
Regulatory	Approvals	FCC, IC, CE, ASNZ, NCC Bluetooth SIG
Warranty		1-year Warranty





The Sentrius™ RS1xx LoRa/BLE multi-sensor features an integrated antenna and integrated temperature/humidity sensor in a small rugged IP65 enclosure with an external IP67 Open/Closed contact sensor.

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
455-00040	Sentrius™ RS1xx Multi-Sensor – 915MHz External Open/Closed + integrated Temp / Humidity – **North America**
455-00041	Sentrius™ RS1xx Multi-Sensor – 868MHz External Open/Closed + integrated Temp / Humidity - **Europe**
455-00071	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity - **Taiwan**
455-00072	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity – **New Zealand**
455-00073	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity – **Hong Kong**
455-00074	Sentrius™ RS1xx Multi-Sensor – 915MHz External Open/Closed + integrated Temp / Humidity - **Australia (AU915)**
455-00075	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity - **Australia (AS923)**
455-00099	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity – **Malaysia (AS923)**
455-00100	Sentrius™ RS1xx Multi-Sensor – 923MHz External Open/Closed + integrated Temp / Humidity – **Singapore (AS923)**
455-00046	Open/Closed cable assembly only – 1830mm length cable (**Single**)
455-00046B	Open/Closed cable assembly only – 1830mm length cable (**Bulk** – Carton Quantity 50pcs)

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