Laird™ CONNECTIVITY

RS1xx and RG1xx Starter Kits

LoRaWAN-enabled Gateway and Sensor bundle for prototyping IoT applications

- Complete end-to-end solution for sending temperature, humidity and Open/Closed data to the cloud
- LoRaWAN and Bluetooth 4.2
- Battery-powered sensor lasts years on two AA batteries
- Easy to configure for third-party cloud providers
- Easy installation with low maintenance

Features at a Glance

A FULL, END-TO-END LPWAN SOLUTION

Avoid subscription fees on public LoRaWAN networks by supplying your own gateway. The RS1xx and RG1xx together constitute a fully-contained, private LoRaWAN network for your application

READY FOR AWS IoT CORE FOR LORAWAN

Easy to configure and start developing IoT applications, AWS IoT Core for LoRaWAN is designed for easy onboarding, removing the burden of managing a LoRa Network Server.

SECURE AND RELIABLE

Robust, multi-layer security at each interface of the gateway and sensor safeguards your network at every level

READY FOR HARSH ENVIRONMENTS

Robust hardware enclosures are durable and support a wide variety of installation needs. They're also prepared for industrial temperature ranges (RS1xx: -25º to 50º C, RG1xx: -30º to +70º C)

DOOR OPEN/CLOSED SENSOR CABLE

Monitor the open/closed status of doors, windows, and more with the open/closed sensor

COMPREHENSIVE CERTIFICATIONS

The RG1xx and RS1xx range are certified in accordance with several different country radio regulations.
Currently approved for FCC, IC, CE, ASNZS, NCC, and IMDA.

LoRa ALLIANCE REGIONAL PARAMETERS

The RG1xx and RS1xx range supports a growing number of countries defined by the LoRa Alliance regional parameters spec Currently supporting countries within the following channel plans:
- EU863-870, US902-928, AU915, and AS923

The IoT is all about getting data to the cloud, and taking critical actions based on the information in the world around us. Our RG1xx Gateway and RS1xx Sensors make it effortless to prototype your long-range Temperature/Humidity and Open/Closed applications and start gathering meaningful data today.

The RG1xx+RS1xx Starter Kit features our LoRaWAN enabled gateway and one of the sensors from our LoRaWAN range, the Multi-Sensor (featuring Temp/RH + Open/Closed sensing capabilities), which make it easy to gather sensor data and send it as far as 10km in open air to our RG1xx gateway, where it can be sent to the cloud via Wi-Fi or Ethernet.

The RG1xx is configurable over a web-based GUI for many popular packet forwarders for cloud services like Amazon Web Services, Semtech Basics Station, The Things Network, ChirpStack, and Senet, making setup and operation a breeze.
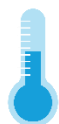
The Starter Kit is also compatible with **AWS IoT Core for LoRaWAN**. As AWS Qualified Devices, the RG1xx and RS1xx are easy to quickly register with AWS IoT Core, eliminating the need to manage a LoRa Network Server and accelerating IoT application development.

RS1xx sensors are easy to install, last for years on two AA batteries are configurable over our mobile application.

With support for AWS IoT Core for LoRaWAN!

aws qualified device internet of things

- RG1xx Gateway supporting multiple interfaces, LoRaWAN, WiFi 802.11a/b/g/n and Ethernet connectivity
- 8-Channel LoRaWAN support with up to +27 dBm max transmit power
- RS1xx Sensor supports LoRaWAN and Bluetooth 4.2 (Central/Peripheral Mode)
- 256k flash memory on RS1xx sensor can store up to 10,000 measurements
- Small form factor sensors are easy to integrate into nearly any environment
- Approvals for FCC, IC, CE, ASNZS, NCC, IMDA, and Bluetooth SIG
- Industrial operating temperature range (RS1xx: -25º to 50º C, RG1xx: -30º to +70º C)

WiFi · Bluetooth · SEMTECH · THE THINGS NETWORK · ChirpStack · senet

Cold Chain Management and Food Safety

Industrial Heating and Cooling

Agricultural Humidity and Environmental Monitoring

Industrial Automation/Monitoring and Control

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CATEGORY	FEATURE	RG1xx GATEWAY	RS1xx SENSOR
Chipsets	LoRa	Semtech SX1301/1257	Semtech SX1272
	Bluetooth	Cambridge Silicon Radio CSR8811 A08	Nordic nRF51822
	Wi-Fi	Qualcomm Atheros QCA6004	N/A
Interfaces	Wi-Fi	2x2 MIMO 802.11n, 2.4 and 5 GHz	N/A
	Bluetooth	N/A	Bluetooth 4.2
	LoRaWAN country Starter Kit variants available	North America (NA) US902-928 Europe (EU) EU863-870	North America (NA) US902-928 Europe (EU) EU863-870
	Ethernet	RJ45 Connector	N/A
	Open/Closed	N/A	Open/Closed Peripheral Cable Assembly
Software	Config / FW Update	Web-based GUI	Mobile Application (Android/iOS)
	Application Support	Pre-loaded LoRa Forwarders (Semtech Basics Station / UDP forwarder, Senet, and Chirpstack)	smartBASIC Application Environment
LED Display	Status	6 LEDs – Power, Ethernet, Wi-Fi, BLE, LoRa, User	3 LEDs – BLE and LoRa Status
Form Factor	Enclosure	Molded plastic housing	Molded plastic housing
Physical	Dimensions	133 x 275 x 30 mm	116 x 91 x 34 mm
Power	Power Supply	DC Adapter (12V/1A)	2x AA Batteries - replaceable
Approvals	Regulatory Industry	FCC, IC, CE, ASNZS, NCC, IMDA	FCC, IC, CE, ASNZS, NCC, IMDA Bluetooth SIG Qualified Listing
Warranty	Warranty Type	1-Year Warranty	1-Year Warranty
Website	Product Page	https://www.lairdconnect.com/rg1xx-series	https://www.lairdconnect.com/rs1xx-sensors

Ordering Information

Note: Within this starter kit special, the Open/Closed cable assembly **IS** included.

PART	DESCRIPTION
455-00122	Sentrius™ **RS191** Multi-Sensor – 915MHz External Open/Closed + integrated Temp / Humidity – North America + Sentrius™ **RG191 US** (US902-928) 915 MHz Gateway - LoRaWAN, Wi-Fi & Ethernet – US Power Adapter + **Open/Closed** cable assembly only – 1830mm length cable (**Single**)
455-00121	Sentrius™ **RS186** Multi-Sensor – 868MHz External Open/Closed + integrated Temp / Humidity – Europe + Sentrius™ **RG186 Europe** (EU868) 868 MHz Gateway - LoRaWAN, Wi-Fi & Ethernet – EU Power Adapter + Open/Closed cable assembly only – 1830mm length cable (**Single**)

Typically, when ordering RS1xx Open/Closed sensors individually the cable assembly is not included with the Sentrius sensor enclosure, each part must be ordered individually! It's a 1 to 1 ratio of region-specific RS1xx sensor enclosure to sensor cable assembly.

Additionally, RS1xx Sensor cable assemblies available as part of the Sentrius product range are **not** interchangeable between Sentrius sensor enclosures (blue housing) with external RJ45 ports. Users must be sure to 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.

Finally, the region setting of the RG1xx Gateway / RS1xx Sensor radio **cannot** be changed. The user must purchase the appropriate model for the desired region of operation and only use the model appropriate for the location in which they install the hardware.

The only exception to this rule is switching between AU915 and AU923 regions for operation within Australia.

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