Sentrius™ RG1xx Gateways

LoRaWAN-enabled Gateway with 802.11a/b/g/n Wi-Fi

YOUR PRIVATE INDUSTRIAL IOT PLATFORM. CLOUD-READY ON DAY ONE.

NEW: **Semtech Basics Station** forwarder integration as well as enhanced **TR-069 remote management** functionality

Laird Connectivity's **Sentrius™ RG1xx Series** LoRaWAN-enabled gateway is the ultimate in secure, scalable, robust LoRaWAN solution for end-to-end control of your private LoRaWAN network. Leveraging our field-proven, reliable WB50NBT wireless bridge certified module, it also offers enterprise **dual-band Wi-Fi and wired Ethernet** for complete design freedom. Based on the **Semtech SX1301/SX1257 chipset designs**, it offers a **LoRaWAN range up to 10 miles** and pre-loaded **LoRa Packet Forwarder software**, perfect for highly scalable, flexible IoT networks. The Sentrius RG1xx Gateway **works with our RM1xx certified modules and RS1xx Series sensors** for simple out-of-the-box integration.

It is compatible with third-party Cloud and LoRa partners, as well as any LoRaWAN certified client devices. In addition to the existing US902-928 and EU868 support, the Sentrius RG1xx Series Gateway now also supports **LoRa Alliance regions** AU915-928 and a growing number of countries in the AS923 region, giving you regulatory compliant, multi-protocol connectivity for your long-distance IoT sensors and devices to create actionable IoT intelligence.

- **Full Linux operating system** – Kernel v4.x running on Atmel A5 Core @ 536 MHz
- **Multiple interfaces** such as LoRaWAN, Wi-Fi 802.11a/b/g/n and Ethernet
- **8-Channel LoRaWAN support** with up to +27 dBm max transmit power
- **Comprehensive Certifications** for FCC, IC, CE, ASNZS, NCC
- **Industrial temperature range** (-30º to +70º C)
- **Advanced deployment tools** including intuitive web-based configuration and integrated presets for multiple external LoRa Network Server vendors
- **Enterprise-grade security** built on our years of experience in wireless
- **Industry-leading support** works directly with our engineers to help deploy your design

FEATURES AT A GLANCE

AGGREGATE AND UTILIZE IoT DATA

Develop a fully owned private LoRaWAN network to capture, route, and process IoT data for your application.

MULTIPLE INTERFACE OPTIONS FOR ULTIMATE DESIGN CHOICE

Wide variety of connectivity interfaces: LoRaWAN, Dual Band Wi-Fi (2.4 and 5 GHz), Ethernet and BT v4.0 (BLE and Classic – not implemented in GA1).

COMPREHENSIVE SECURITY AND RELIABILITY

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

BROAD CERTIFICATION AND APPROVALS

Fully certified for FCC, IC, and CE and Bluetooth SIG listing.

PLATFORM FOR BUILDING ACTIONABLE IoT INTELLIGENCE

Route sensor data to the Cloud with our integrated LoRa Packet Forwarder software for simple application deployment

PERSONAL SUPPORT FOR YOUR IMPLEMENTATION

Partner with Laird Connectivity's Tier 2 support and engineering to help configure and deploy your application.

APPLICATION AREAS

- Smart Metering and Remote Sensing
- Industrial Automation/Monitoring and Control
- Agricultural and Rural IoT/ M2M Applications

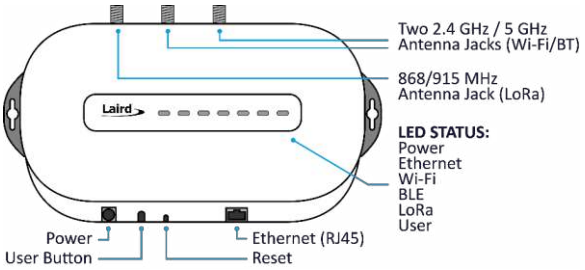
Interested in Laird's Sentrius™ RG1xx Gateways?
Contact us at **https://connectivity.lairdtech.com/rg1xx-series**

Shared Specifications

Category	Feature	Specification
Chipset	LoRa®	Semtech SX1301/1257
	Bluetooth®	Cambridge Silicon Radio CSR8811 A08
	Wi-Fi	Qualcomm Atheros QCA6004
Wireless Characteristics	Wi-Fi Spatial Streams	2x2 MIMO
	Wi-Fi Frequencies	2.4 and 5 GHz Operation
	LoRaWAN Regions	EU 863–870 MHz, US 902–928 MHz, AU915–928 MHz and AS923 (TW, HK, NZ, AU)
Interfaces	Wired	Ethernet - RJ45 Connector
	Wireless	LoRaWAN, Wi-Fi 2.4/5 GHz
Power	Supply Voltage	12V/1A
	Power Adapter	External DC Power Supply with regional plug adapter
Security	Wi-Fi	Standards - WEP, WPA, WPA2. Encryption – WEP, TKIP, AES EAP Types - EAP-FAST, EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAP, PEAP-SCHAPv2, PEAP-TLS, LEAP
Software	Operating System	Embedded Linux, 4.x Kernel
	LoRa	Packet Network Forwarder with default support for the following: ▪ The Things Network with Semtech Basic Station or UDP forwarder ▪ Stream communications with UDP forwarder ▪ ChirpStack with UDP forwarder or Semtech Basic Station ▪ Senet through legacy Semtech UDP or proprietary Senet forwarder
	Configuration	Web-based interface via Ethernet/Wi-Fi
Physical	Dimensions	133 x 275 x 30 mm
Environmental	Operating Temp.	-30° to +70°C
Regulatory	Approvals	FCC, IC, CE, ASNZS, NCC
Accessories	Included	1x 868 MHz, 915 MHz, 923 MHz antenna, 2x 2.4 /5 GHz antennas, External DC Adapter, Ethernet cable
Enclosure	Standard	Moulded plastic housing
	Option - IP67 Enclosure	Optional IP67-rated external enclosure housing for main gateway PCB
Warranty		1-Year warranty

For full specifications on RG1xx Gateways, please see the RG1xx User Guide.

Connector Diagram (Standard RG1xx)



Ordering Information

Part	Description
RG191	Sentrius™ RG191 US (US902-928) 915 MHz Gateway - LoRaWAN, Wi-Fi & Ethernet – US Power Adapter
RG186	Sentrius™ RG186 Europe (EU868) 868 MHz Gateway - LoRaWAN, Wi-Fi & Ethernet – EU Power Adapter
455-00028	Sentrius™ RG186 United Kingdom (EU868) 868 MHz Gateway - LoRaWAN, Wi-Fi & Ethernet – UK Power Adapter
450-0191	Sentrius™ RG191 US (US902-928) 915 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet - IP67
450-0190	Sentrius™ RG186 Europe (EU868) 868 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet - IP67
455-00054	Sentrius™ RG1xx Taiwan (AS923) 923 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet – TW Power Adapter
455-00055	Sentrius™ RG1xx New Zealand (AS923) 923 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet – NZ Power Adapter
455-00056	Sentrius™ RG1xx Hong Kong (AS923) 923 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet – HK Power Adapter
455-00057	Sentrius™ RG1xx Australia (AU915+AS923) 923 MHz Gateway – LoRaWAN, Wi-Fi & Ethernet – AU Power Adapter
690-1002	Pole Mount Bracket - Accessory for 450-0190 or 450-0191
690-1003	Wall Mount Bracket - Accessory for 450-0190 or 450-0191

Note: The region setting of the 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 will install the gateway. The only exception to this rule is switching between AU915 and AU923 regions for operation within Australia.