

Kaiterra BACnet Gateway

Compatible with the Sensedge Go, Sensedge Duct (Wireless), and Sensedge Go for Outdoors



Product Variants Overview

Kaiterra Product Name	Kaiterra SKU
GW-37 NA BACnet Gateway	GW-37-NA-915M-EG95-NA-POE
GW-37 EMEA BACnet Gateway	GW-37-EMEA-868M-EG95-E-POE
GW-37 IN BACnet Gateway	GW-37-IN-868M-EC25-E-POE
GW-37 AU BACnet Gateway	GW-37-AU-915M-EC25-AU-POE
GW-37 APAC BACnet Gateway	GW-37-APAC-915M-EC25-E-POE
GW-37 JP BACnet Gateway	GW-37-JP-915M-EC25-J-POE

Features

Hardware

- IP30 industrial-grade enclosure
- PoE (802.3at)
- 1x 10/100/1000M ETH WAN Port
- 4x 10/100/1000M ETH LAN Ports
- 1x 10/100/1000M SFP Port
- 2x Type-A USB3.0 Ports
- 1x USB2.0 Debug port (Type-C connector)
- 2x RS485 Ports
- Single LoRa Concentrator for 8 channels (optional 16 channels with two LoRa Concentrators)
- Backhaul: Ethernet, SFP, 2.4 GHz Wi-Fi, LTE
- Optional connectivity: Satellite communication, Wi-Fi HaLow, 5G Wi-Fi, 5G NR, and 2.4 GHz LoRa
- Supports DC 9-36 V
- External antenna (upgradable)
- Dying gasp
- Reset button
- USB 2.0 to UART Debug port (Type-C Connector)

Software

BACnet Gateway Capabilities

- BACnet/IP Gateway (WisGateOS 2 Extensions): Provides native BACnet/IP integration, enabling bridging of LoRaWAN devices with building management systems (BMS).
- BACnet MQTT Integration: Provides MQTT-based data forwarding for BACnet Gateway data flows.
- BACnet/IP Client Whitelisting: Restricts BACnet/IP access to authorized BMS clients through whitelist-based connection control.
- BMS Compatibility: Supports integration with BACnet/IP-compliant BMS platforms, including Carrier BMS.
- Web UI Configuration: Web-based configuration for BACnet device mapping, whitelist, and parameters.

LoRaWAN Gateway Capabilities

- [WisGateOS 2](#) : Operating system for configuring and managing the gateway.
- Built-in LoRaWAN Network Server with full v1.0.3 specification support.
- Full LoRaWAN stack support with Semtech SX1303.
- LoRa frame filtering (node whitelisting in Packet Forwarder mode).
- MQTT v3.1 Bridge with TLS encryption for secure data delivery.
- LoRa Frame Buffering in Packet Forwarder mode during network server outages (no data loss).
- Listen Before Talk (optional).

Note: Product specifications are subject to change without notice. Feature availability may differ by model.

Main Specifications

Feature	Specifications
Computing	IPQ5018 dual-core ARM Cortex-A53 @ 1.0 GHz, 1 GB DDR3 RAM
LoRa Feature	• SX1303 mPCIe card • 8 Channels • Frequency: EU868/IN865/RU864/US915/AU915/KR920/AS923 • Listen Before Talk • LoRa Radio: Refer to the LoRa Radio Specifications section for detailed information.
Wi-Fi Feature	• Frequency: 2.4 GHz (802.11b/g/n/ac/ax) • 2x2 MIMO • Operation channels: 2.4 GHz: 1-13 • Wi-Fi Radio: Refer to the Wi-Fi Radio Specifications section for detailed information.
Cellular Feature	• Nano SIM Card: 12 mm x 9 mm x 0.6 mm • Supports Quectel EG95-E/EG95-NA/EC25-E/EC25-AU (IoT/M2M optimized LTE Cat 4 Module) • LTE Radio: Refer to the LTE Radio Specifications section for detailed information.
Power Supply	• PoE (IEEE 802.3at): 42~57 VDC • DC 9~36 V
ETH	• 1 × WAN RJ45 port (10/100/1000 Mbps) • 4 × LAN RJ45 ports (10/100/1000 Mbps)
SFP	1 × SFP port (1 Gbps)
Antenna	• LoRa: 1 RP-SMA connector • LTE: 2 SMA connectors • 2.4G Wi-Fi: 2 SMA connectors
Ingress Protection	IP30
Enclosure Material	Aluminum
Operating Conditions	• Operating Temperature: - 20 °C to + 55 °C • Operating Humidity: 0 - 95 %RH non-condensing
Installation Method	• Desktop • Wall mounting • Din rail mounting

Hardware

The hardware specification outlines the interfacing of the gateway and its associated functionalities.

RF Specifications

LoRa Radio Specifications

Parameter	Specifications
Frequency	EU868/IN865/RU864/US915/AU915/KR920/AS923
Transmit Power	27 dBm (Max)
Receiver Sensitivity	-139 dBm (Min)

WiFi Radio Specifications

Feature	Specifications
Wireless Standard	IEEE 802.11b/g/n/ac/ax
Operating Frequency	ISM band: 2.412~2.472 GHz
Operation Channels	2.4 GHz: 1-13
Transmit power: per chain (The max power may be different depending on local regulations)	• 802.11b • 1 Mbps: 19 dBm • 11 Mbps: 19 dBm • 802.11g • 6 Mbps: 18 dBm • 54 Mbps: 16 dBm • 802.11n (2.4 GHz) • MCS0 (HT20): 18 dBm • MCS7 (HT20): 16 dBm • MCS0 (HT40): 17 dBm • MCS7 (HT40): 15 dBm
Receiver Sensitivity (Typical)	• 802.11b • 1 Mbps: 95 dBm • 11 Mbps: 88 dBm • 802.11g • 6 Mbps: 90 dBm • 54 Mbps: 75 dBm • 802.11n (2.4 GHz) • MCS0 (HT20): 89 dBm • MCS7 (HT20): 72 dBm • MCS0 (HT40): 86 dBm • MCS7 (HT40): 68 dBm

LTE Radio Specifications

Feature	Specifications
EG95-E for EMEA Region (Europe, Middle East, and Africa)	• LTE FDD: B1/B3/B7/B8/B20/B28A • WCDMA: B1/B8 • GSM/EDGE: B3/B8
EG95-NA for North America Region	• LTE FDD: B2/B4/B5/B12/B13 • WCDMA: B2/B4/B5 • LTE-FDD: B1/B3/B5/B7/B8/B20
EC25-E for South Korea, Thailand, India	• LTE-TDD: B38/B40/B41 • WCDMA: B1/B5/B8 • GSM/EDGE: B2/B3/B5/B8 • LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28
EC25-AU for Latin America, Australia, and New Zealand Region	• LTE-TDD: B40 • WCDMA: B1/B2/B5/B8 • GSM: B3/B8

Note: Product specifications are subject to change without notice.

Software

LoRa	Network	Management
BACnet Gateway (LoRaWAN to BACnet/IP)	Wi-Fi AP Mode	Web UI
Gateway OTA Management	Wi-Fi Client Mode	SSH2
LoRaWAN Packet Forwarding (Packet Forwarder, Basics Station)	LTE APN Setup	Firmware Update
Frequency Band Setup	VLAN (802.1Q) Support	Built-in Network Server
Country Code Setup	Uplink Backup	MQTT Bridge
TX Power Setup	Firewall	Ping Watchdog
Data Logger	DHCP Server/Client	
Location Setup		
LoRa Statistics		
Supports Class A and C		
Server Address and Port Setup		

Certification

- CE Certification
- FCC Certification
- ISSED Certification

Additional information available: <https://docs.rakwireless.com/>