Edge Pro

8 or 16 channel Outdoor LoRaWAN Gateway

Best in class outdoor gateway

Product Overview

Edge Pro is an ideal product for IoT commercial deployment. With its industrial-grade components, it achieves a high standard of reliability.

Supports up to 16 LoRa channels, multi-backhaul with Ethernet, Wi-Fi, and Cellular connectivity. Optionally there is a dedicated port for different power options, solar panels, and batteries. With its new enclosure design, it allows the LTE, Wi-Fi and GPS antennas to be inside the enclosure.

The gateway supports WisGate OS2, which is based on the latest OpenWRT kernel and accommodates the latest security updates like IPv6, OpenSSL 1.1 support, multiple accounts access, and more. The web UI has a fresh new look, with more user-friendly information tooltips.

Thus, the EDGE PRO is suited for any use case scenario, be it rapid deployment or customization with regard to UI and functionality.

Product Features

Hardware	Software
IP67/NEMA-6 industrial-grade enclosure with cable glands	Built-in Network Server
PoE (802.3af) + Surge Protection	OpenVPN
Dual LoRa Concentrators for up to 16 channels	Software and UI sit on top of OpenWRT
Backhaul: Wi-Fi and Ethernet	Full LoRaWAN Stack support with Semtech SX1303
GPS	LoRa Frame filtering (node whitelisting)
Supports DC 12 V or solar power supply with electricity monitoring (Solar Kit optional)	MQTT v3.1 Bridging with TLS encryption

Internal antenna for Wi-Fi, GPS, and LTE (LTE Version), external antenna for LoRa	Buffering of LoRa frames in Packet Forwarder mode in case of NS outage (no data loss)
Dying-gasp (optional)	Full-duplex (optional) and Listen Before Talk (optional)

Main Specifications

Computing	MT7628, DDR2 RAM 128 MB
Wi-Fi feature	Frequency: 2.4 GHz (802.11b/g/n)
Operation Channels	2x2 MIMO
	RX Sensitivity: -95 dBm (Min)
	TX Power: 20 dBm (Max)
	Operation channels: 2.4 GHz: 1-13
LoRa feature	SX1303 mPCIe card (connects maximum of two)
	8 Channels (16 channels optional)
	RX Sensitivity: -139 dBm (Min)
	TX Power: 27 dBm (Max)
	Listen Before Talk
Frequency	EU433/CN470/EU868/US915/AS923/AS923-1/AS923-2/AS923- 3/AS923-4/AU915/IN865/KR920
Power Supply	PoE (IEEE 802.3af) - 37~57 VDC

Cellular Feature (LTE Version)	Supports Quectel EG95-E/EG95-NA (IoT/M2M - optimized LTE Cat 4 Module)
	EG95-E for EMEA Region (Europe, Middle East and Africa)
	WCDMA: B1/B8
	GSM/EDGE: B3/B8
	EG95-NA for North America Region
	LTE FDD: B2/B4/B5/B12/B13
	WCDMA: B2/B4/B5
ETH	RJ45 (10/100 M)
Antenna	LoRa: 1 or 2 N-Type connectors
	LTE: Internal antenna (LTE Version only)
	Wi-Fi: Internal antenna
Ingress Protection	IP67
Enclosure Housing	Aluminium and plastic
Operating Temperature	-30˚C to +55˚C
Operating Humidity	0-95% RH non-condensing
Installation Method	Pole or wall mounting

RF Specifications

Wi-Fi Radio Specifications

Wireless Standard	IEEE 802.11 b/g/n

Operating Frequency	ISM band: 2.412~2.472 (GHz)
Operation Channels	2.4 GHz: 1-13
Transmit Power (The max power may differ depending on local regulations) - per chain	802.11b 19dBm @1Mbps / 11Mbps
	802.11g 18dBm @6Mbps / 16dBm @54Mbps
	802.11n (2.4G) 18 dBm @MCS0 (HT20) / 16 dBm @MCS7 (HT20) / 17 dBm @MCS0 (HT40) / 15 dBm @MCS7 (HT40)
Receiver Sensitivity (Typical)	802.11b -95dBm@1Mbps / -88dBm@11Mbps
	802.11g -90dBm@6Mbps / -75dBm@54Mbps
	802.11n (2.4G) -89dBM@MC50(HT20) / -72dBM@MC57(HT20) / -86dBM@MC50(HT40) / -68dBm@MCS7(HT40)

LoRa Radio Specifications

Operating Frequency	EU433 / CN470 / EU868 / US915 / AS923 / AU915 / IN865 / KR920
Transmit Power	27 dBm (Max)
Receiver Sensitivity	-139 dBm (Min)

Interfaces

The function of the Reset key is as follows:

- ✓ **Short press:** Restart the gateway.
- ✓ **Long press (5s and above):** Restore factory settings.

LEDs status description:

LED 1 (PWR)		**Power indicator** - The LED is on when the device power is on
LED 2 (ETH)		**ON** - Linkup
		OFF - Linkdown
		Flicker - Data transmitting and receiving
LED 3 (LoRa 1)		**ON** - LoRa 1 is working
		OFF - LoRa 1 is not working
		Flicker - Indicate LoRa 1 Packet receiving and sending
LED 4 (WLAN)	**AP Mode:**	**ON** - The AP is up
		Flicker - Data receiving and sending

	STA Mode:	**ON** - Connected
		Slow flicker (1 Hz) - Disconnected
		Flicker - Data receiving and sending
LED 5 (LTE)		**ON** - Voice is working
		Slow Flicker (1800 ms High / 200 ms Low) - Network searching
		Slow flicker (200 ms High / 1800 ms Low) - Idle
		Fast flicker (125 ms High / 125 ms Low) - Ongoing data transfer
LED 6 (LoRa 2 for 16 channel)		**ON** - LoRa 2 is working
		OFF - LoRa 2 is not working
		Flicker - Indicate LoRa 2 Packet receiving and sending

Certifications