

miro Edge Indoor

Modular high-performance family of LoRaWAN[®] indoor gateways for 868 MHz, 915 MHz and 2.4 GHz ISM frequency bands

Description

miro Edge Indoor is an OEM/white-label product family of affordable, fully LoRaWAN[®]-compatible gateways. The small form-factor, integrated interfaces such as Ethernet, Power over Ethernet (PoE), Mini PCIe, and its underlying OpenWRT based Linux OS enable seamless integration of these gateways into any infrastructure.

Utilizing the built-in web-frontend, the gateway can be configured to communicate with any LoRaWAN[®] compatible network server.

Features

- ▶ Support for 868/915 MHz and 2.4 GHz
- ▶ ETSI Listen Before Talk (LBT)
- ▶ Modular design: 2 × Mini PCIe slots
- ▶ Ethernet, PoE, USB, Mini PCIe
- ▶ Optional cellular connectivity (3G/4G card)
- ▶ Cellular SIM/eSIM support
- ▶ Preconfigured or web-based configuration
- ▶ Customer specific branding and configuration

Applications

- ▶ Smart Metering / Smart Buildings
- ▶ Industry 4.0
- ▶ Home Automation
- ▶ Healthcare
- ▶ Smart Retail
- ▶ Supply Chain & Logistics
- ▶ Facility Management



Document Information

About

File name	Document type	Date	Revision
DS miro Edge Indoor	Datasheet	2024/01/24	1.0

Revision history

Date	Release	Changes
2024/01/24	1.0	Separated indoor and outdoor version

Table of content

Document Information	2
Connectors and Interfaces	3
LED status information	3
Technical Specifications	4
Mechanical Dimensions	6
Additional Documentation	7
Device Options	7
Keep in touch	8

Connectors and Interfaces

Connectors and Interfaces

- | | | | |
|---|------------------------|----|------------------------|
| 1 | External LoRa® antenna | 6 | Power Indicator |
| 2 | Reset button | 7 | Power input, USB micro |
| 3 | WWAN LED | 8 | USB device connector |
| 4 | WLAN LED | 9 | Ethernet / PoE |
| 5 | LoRa® LED | 10 | External LTE antenna |

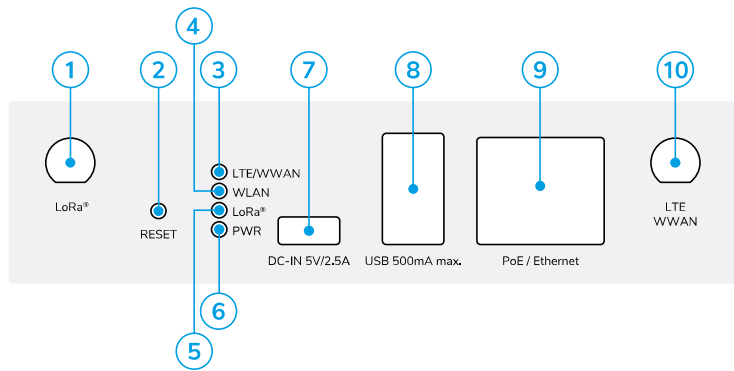


Figure 1: Interfaces

LED status information

LED	Description	solid	flashing	off
LTE/WWAN	mobile network available	connected	error	not available (?)
WLAN	WiFi activity	-	transmission activity	WiFi off
LoRa® ¹	LoRa® connectivity	connected	-	no connection
PWR	Power supply	device is powered	-	device not powered

¹ LED behaviour also depends on LoRaWAN network server implementation and might be different

Technical Specifications

Mechanical specifications	
Weight	~175 g
Dimensions (internal antennas)	110 × 129 × 33 mm
Enclosure	Plastic, ABS
Ingress protection	IP41

Operating conditions	
Temperature range	0 – 55 °C
Humidity	0 – 95 % RH, non-condensing

Device power supply	
Standard	MicroUSB (5 VDC, 12 W)
Optional	PoE 802.3af (12 W)

LoRa® Radio / Wireless	868 MHz / 915 MHz	2.4 GHz
Chip set	RX: SX1308 ² / SX1257, TX: SX1272	SX1280 (3x RX, 1x TX)
Rx sensitivity ¹	-141 dBm (SF12)	-130 dBm (SF12)
RF transmission power ¹	up to 27 dBm	up to 24 dBm
Data rates ¹	0.6 – 300 kbps (FSK) SF7-SF12, 125/250/500 kHz	0.6 – 253 kbps (LoRa) Up to 1.3 Mbps (FLRC) Up to 2 Mbps (FSK)

¹ See gateway card datasheet for detailed specifications

² SX1302 based gateways available on request

Antenna options	
IoT/LoRa®	Internal and external antenna option, software selectable antenna diversity
LTE	Dual, multi-band-MIMO (internal + external)

Technical Specifications

Certifications

CE

FCC

US915: FCC ID: 2AUQE30REJ
2G4-PRO: FCC ID: 2AUQEBQN90
LTE: FCC ID: 2AJYU-8PYA007
LTE: FCC ID: XMR201708EC21E

⚠ FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Mechanical Dimensions

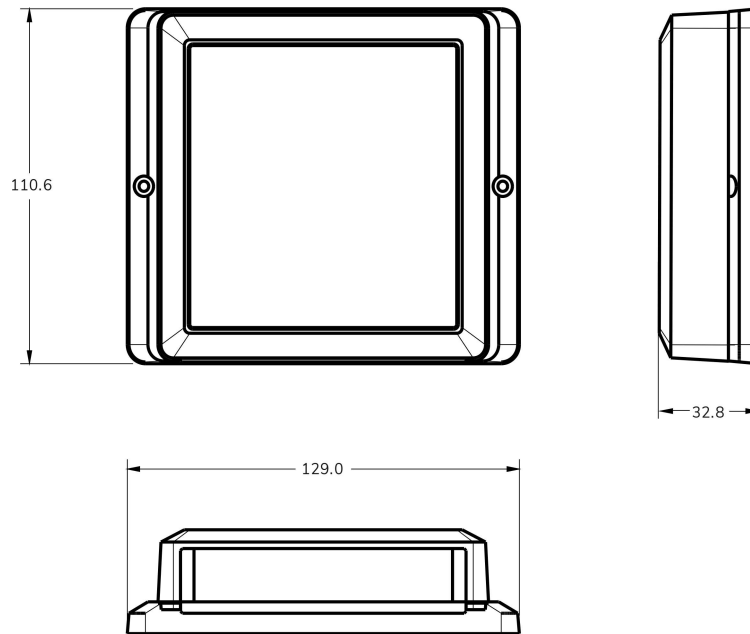


Figure 2: Mechanical Dimensions in mm

Additional Documentation

Additional Resources

Product information page	miromico.ch/miro-edge-indoor
Technical documentation	docs.miromico.ch/gateways-cards

Device Options

Product ID	ISM BAND			Options		
	868 MHz	915 MHz	2.4 GHz ¹	LTE	Ext. Antenna	BICS SIM ²
GW-EDGE-LW/868-ANT	✓				✓	
GW-EDGE-LW/868-LTE-ANT	✓			✓	✓	
GW-EDGE-LW/868-BIC-ANT	✓			✓	✓	✓
EDGE-LW-915		✓			✓	
EDGE-LW-915-LTE		✓		✓	✓	
EDGE-LW-915-BIC		✓		✓	✓	✓
EDGE-LW-2G4			✓		✓	
EDGE-LW-2G4-LTE			✓	✓	✓	
EDGE-LW-2G4-BIC			✓	✓	✓	✓

¹ with power amplifier and hardware ranging support

² other SIM provider on request

Keep in touch

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