



LoRaWAN Indoor Gateway

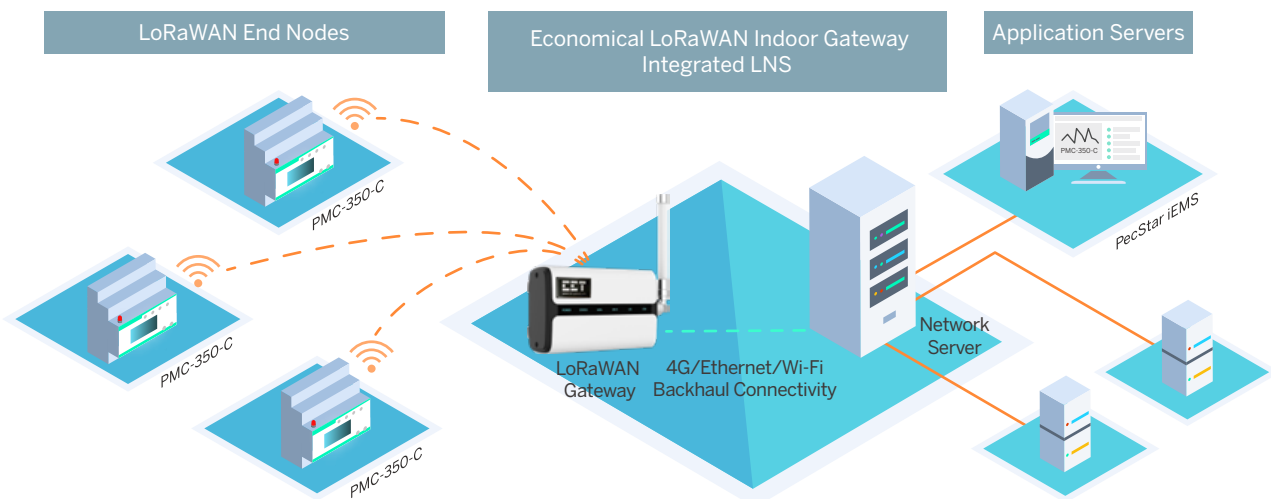
Introduction

- Economical LoRaWAN Indoor Gateway with Built-In LNS (LoRaWAN Network Server) for simple integration with LoRaWAN Application Servers such as CET's PecStar iEMS
- Support more than 500 LoRaWAN end nodes (simple messages) or 100xPMC-350-C LoRaWAN (with multiple complex messages)
- Support multiple back-haul connectivity with Ethernet and Wi-Fi for LAN applications or optional 4G for WAN applications
- Perfect for Private Network deployment in electrical substations without Line of Sight or with extremely poor RF connectivity from an Outdoor Gateway because of the completely enclosed and window-less environment with thick concrete walls and metal doors

Features

- Quad-core industrial processor with 512MB of RAM and 8GB of Flash Memory
- Equipped with the SX1302 LoRa Core that is specifically designed for Gateway applications to handle a higher amount of traffic with lower power consumption
- 8 Half/Full-duplex channels
- IP65 enclosure and industrial design for partially outdoor applications like eaves
- Desktop, wall or optional pole mounting
- Easy and centralized management of remote devices
- Multiple back-haul connectivity options with Ethernet, Wi-Fi and Cellular (4G/3G)
- Support multiple VPN options such as IPsec, OpenVPN, L2TP, PPTP and DMVPN
- Compatible with mainstream LoRaWAN Network Servers like The ThingsNetwork (TTN), ChirpStack, etc.
- Built-in Network Server supporting MQTT/HTTP/HTTPS API for easy and quick deployment

Application



Specifications

Hardware System

CPU	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
Memory	512 MB DDR4 RAM
Flash	8 GB eMMC

LoRaWAN

Antenna	2×Internal Antennas (Optional: 1×50 Ω N-Female External Connector)
Channel	8 (Half/Full-duplex)
Frequency Band	US915/AU915/KR920/AS923/AS923-2 IN865/EU868/RU864 or CN470
Sensitivity	-140dBm Sensitivity @292bps
Output Power	27dBm Max.
Protocol	V1.0 Class A/Class C and V1.0.2 Class A/Class C

Ethernet Interface (Standard)

Port	1×RJ45 (PoE PD support)
Physical Layer	10/100/1000 Base-T (IEEE 802.3)
Data Rate	10/100/1000 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full or Half Duplex (Auto-Sensing)

Wi-Fi Interface (Standard)

Antenna	Internal Antenna
Standards	IEEE 802.11 b/g/n, 2.4GHz
Mode	AP or Client mode
Security	WPA/WPA2 authentication, WEP/TKIP/AES encryption
Tx Power	802.11b: 18 dBm +/-2.0 dBm (11 Mbps) 802.11g: 15 dBm +/-2.0 dBm (6 Mbps) 802.11g: 15 dBm +/-2.0 dBm (54 Mbps) 802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS0_HT20) 802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS7_HT20) 802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS0_HT40) 802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS7_HT40)

Cellular Interface (Optional)

Antenna	Internal Antenna
SIM Slot	1 (mini SIM-2FF)
Bands	L04EU: B1/B3/B7/B8/B20/B28A/B38/B40/B41 (EMEA/APAC) L04AF: B2/B4/B5/B12/B13/B14/B66/B71 (North America) L04AU: B1/B2/B3/B4/B5/B7/B8/B28/B40 (Latin America/Australia/NZ)

Others

Reset Button	1×RST
Console Port	1×USB Type-C
LED Indicators	1×POWER, 1×STATUS, 1×LoRa, 1×Wi-Fi, 1×LTE, 1×ETH
Built-in	Watchdog, RTC, Timer

Software

Network Protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNMP, Telnet, SSH, MQTT, etc.
VPN Tunnel	OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN
Firewall	ACL/DMZ/Port Mapping/MAC Binding/URL Filter
Management	Web, CLI, SMS, On-demand dial up, DeviceHub
Reliability	WAN Failover

Power Supply and Consumption

Power Input	1. DC Jack Connector for 9-24 VDC power supply 2. 1×802.3 af PoE Input
Power Consumption	Typical 2.9W, Max 4.2W

Physical Characteristics

Ingress Protection	IP65
Dimensions	180x110x56.5 mm (7.09x4.33x2.22 in)
Mounting	Desktop, Wall or Pole Mounting

Environmental

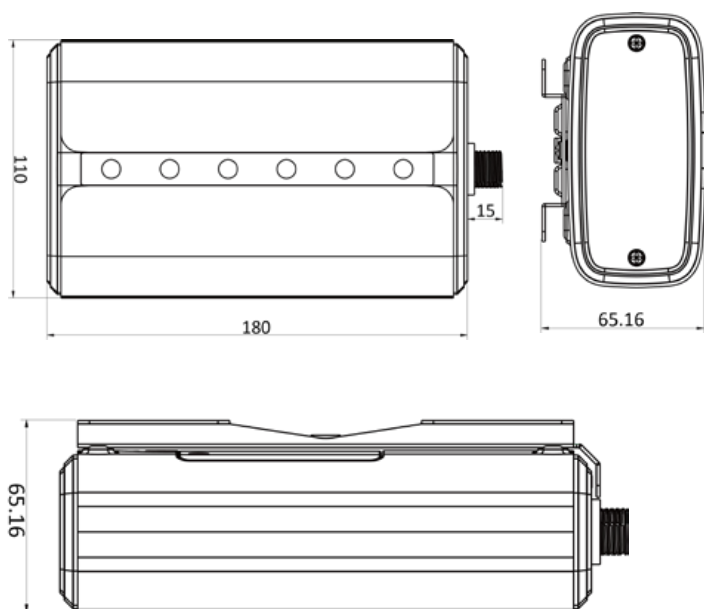
Operating Temperature	-40°C to +70°C (-40°F to +158°F) Reduced Cellular Performance Above 60°C
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Ethernet Isolation	1.5 kV RMS
Relative Humidity	0% to 95% (non-condensing) at 25°C/77°F

Ordering Information

Model	LoRa ISM Bands	Cellular	External Antenna
ND65-915M-EA	KR920, AS923, AU915, US915	No	Yes
ND65-L04EU-915M-EA		APAC & EMEA	Yes

Dimensions

(mm)



Email: sales@cet-global.com
Website: www.cet-global.com

Copyright © CET Inc. All rights reserved.

Your Local Representative

V.00 04.15.2021