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Wirnet™ iEdge series

LoRaWAN® Indoor Edge Gateways for the Internet of Things



The Wirnet™ iEdge series (Wirnet™ iEdge, Wirnet™ iEdge Cellular, Wirnet™ iEdge+, and Wirnet™ iEdge+ Cellular) is designed for smart building, energy management, and industrial IoT applications, combining electrical cabinet integration, industrial protocol bridging (BACnet, Modbus, OPCUA) and edge computing.

Smart Industry

Smart Building / BMS

Key Features

- **Indoor LoRa® Gateway,**
- Industrial grade casing (**IP20**) for electrical cabinets and BMS,
- **DIN-rail and wall-mountable** (DIN 43880 format),
- Supported unlicensed bands : 863-874.4MHz (EMEA, India), 902-928MHz (North America), 915-928MHz (APAC, Latin America),
- Supported LoRaWAN® regional parameters: EU863-870, IN865- 867, RU864-870, US902-928, AU915-928, AS923, KR920-923,
- **8ch RX (125 kHz, multi Spreading Factor) + 1ch RX (250KHz or 500kHz, mono Spreading Factor) + 1ch RX (FSK) to get 10ch RX + 1ch TX,**
- **Native industrial & BMS protocol bridging:** Seamless translation between LoRaWAN® and **BACnet, Modbus, OPC-UA, MQTT**, and **Niagara driver** framework,
- Industrial I/O: **1x RS485 half-duplex and 2x isolated dry contact relay outputs,**
- Backhaul connectivity: 4G/5G Worldwide M.2 module (Micro-SIM 3FF) and Ethernet 10/100 Mbps (dual Ethernet router/switch on iEdge+),
- Powered by:

  - PoE (injector, switch, …), both Mode A and Mode B (802.3af specifications),

  - 10–56 VDC via pluggable terminal block (redundant DC input support)

Key Differentiators

High performance, reliability & robustness

- **Lifetime Guarantee**
- Product **developed and manufactured in France**
- **Industrial grade DIN-rail design** with optimized thermal dissipation and top/bottom cabling,
- **Semtech SX1302 / SX1250 LoRa core** (SX1303 ready),
- **NXP i.MX8X Lite** industrial application processor with ultra-low power consumption (< 1.8 W in idle mode)

Security HW and SW architecture

- **SecureBoot** (Signed firmware) **& SecureStorage** (keys and certificates in secured area) using Trusted Execution Environment solution,
- Compliant with **EU Cyber Resilience Act (CRA)** and **RED Cybersecurity standards (EN 18031-1 / EN 18031-2),**
- Secured links and backhaul protection (OpenVPN/IPsec),
- **Robust fallback:** Hardware watchdog, and automatic recovery to previous/factory configuration

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Easy deployment

- **Top and bottom connector layout** for clean wiring ducts inside standard electrical cabinets (DIN 43880 format),
- **Tool-free DIN-rail mounting** (IEC 60715: 35×7.5 mm / 35×15 mm) and wall-mounting,
- **Remote SMA antenna ports** with 3 m coaxial cables to easily mount LoRa and 4G/5G antennas outside metal enclosures,
- **Local Web GUI commissioning** accessible via **Bluetooth (BLE), Wi-Fi AP, Ethernet, or USB-C** without physical access constraints,
- **Easy access to industrial connectivity:**

- 1× or 2× (for iEdge+) Ethernet 10/100 Mbps (RJ45 with internal router/switch),
- 1× RS485 half-duplex (Modbus RTU) on screwless terminal block,
- 2× Isolated dry contact relay outputs (>1000 VDC isolation, 300 mA continuous current, 500 mA peak),
- Micro-SIM slot (3FF format),

- Eight LEDs controlled by SW (programmable):
  — 1x bicolor LED for power and status (update, boot behavior…),
  — 1x bicolor LED for LoRa status,
  — 1x bicolor LED for backhaul status,
  — 1x bicolor LED for user-programmable application,
  — 1x or 2× (iEdge+) monocolor LEDs for Ethernet status,
  — 2× monocolor LEDs for RS485 TX/RX activity,

- **USB (Type C)** connector on front panel for local debug,
- **Two multifunction buttons:** 1x for On-Off/Reset, 1x for user-programmable application

Technical Features

- Built-in high rejection SAW filters,
- Rx sensitivity: **-134 dBm** (SF12),
- Conducted TX power: configurable from 0dBm to **+27 dBm,**
- Operating range: **-20°C to +70°C**,
- Humidity range: 5% to 95% non-condensing,
- Size: **~120 × 90 × 40 mm** – 7 DIN modules (7M),
- Weight: **< 300 g**,
- Spectrum analysis compliant,
- Casing: **IP20 industrial plastic**,
- Power supply: **PoE IEEE 802.3af (Mode A & B) OR 10–56 VDC** on pluggable terminal block,
- CPU: **i.MX8X Lite** (Single-core on iEdge / Dual-core on iEdge+),
- RAM: **1 GB LPDDR4 (8 Gbits)** on iEdge / **2 GB LPDDR4 (16 Gbits)** on iEdge+,
- Storage: **4 GB eMMC** on iEdge / **16 GB eMMC** on iEdge+

Software Features

- **Industrial & BMS protocol suite:** Out-of-the-box edge services and drivers for BACnet (IP/MSTP), Modbus (RTU/TCP), OPC-UA, MQTT, and Niagara,
- **Programmable edge gateway:** Native docker engine for containerized microservices, custom protocol converters, and edge logic, plus complete open SDK and cross-compilation toolchain (C/C++, Python3, Rust, Shell)
- **Operating system:** KerOS with embedded GNU/Linux based on Yocto LTS and Kernel LTS,
- **Dynamic web interface:** On-the-fly modifications and local commissioning via BLE/Wi-Fi/Eth/USB-C,
- **Packet Forwarders:** Kerlink Common Packet Forwarder (Semtech Packet Forwarder, GWMP), Basic Station

Thanks to their expertise and experience, Kerlink teams are fully mobilized to help you develop your business and reduce your operational and commercial risks.

Don't hesitate to contact us.

All product specifications are subject to change without notice (V1.0)

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Added-Value Services for all gateways

- **Access to Kerlink Wiki**

The Kerlink Wiki gives you full access to comprehensive and up-to-date documentation about the delivered solution: installation and setup instructions, configuration steps, connectivity options, etc.
The content of the wiki at the time of ordering is **the reference** and prevails in case of discrepancy.

Consult it before buying to ensure the solution fits your needs: Click here

- **Zero Touch Provisioning** (ZTP) and **Zero Touch Maintenance** (ZTM)
- **Embedded ChirpStack v4 LNS** for fully autonomous local edge processing without cloud dependencies
- **Same Kerlink software on all i-Series** (for infrastructure homogeneity and easy maintenance)

Available Options

Maintain Program

For customers aiming to enhance their IoT network based on Kerlink gateways.

Including:
- Unlimited level 2/3 support
- Team of dedicated experts
- Response within 8 working hours
- Clear history and tracking
- Personalized support
- Access to our Wanesy Management Cockpit
  - Real-time overview of your gateway's health
  - Precise monitoring of your network's performance

Operate offer

For customers focused on their core business.

Including:
- Maintain Program
- Kerlink commitment on data air availability (SLAs)
- Network Operating Center with dedicated experts monitoring your network
- Pro-active and preventive maintenance
- Monthly reports about health of network (and recommendations)
- Dedicated Account manager

For more informations about our Maintain Program or our Operate offer, contact us: **dataprint@dataprint.fr**

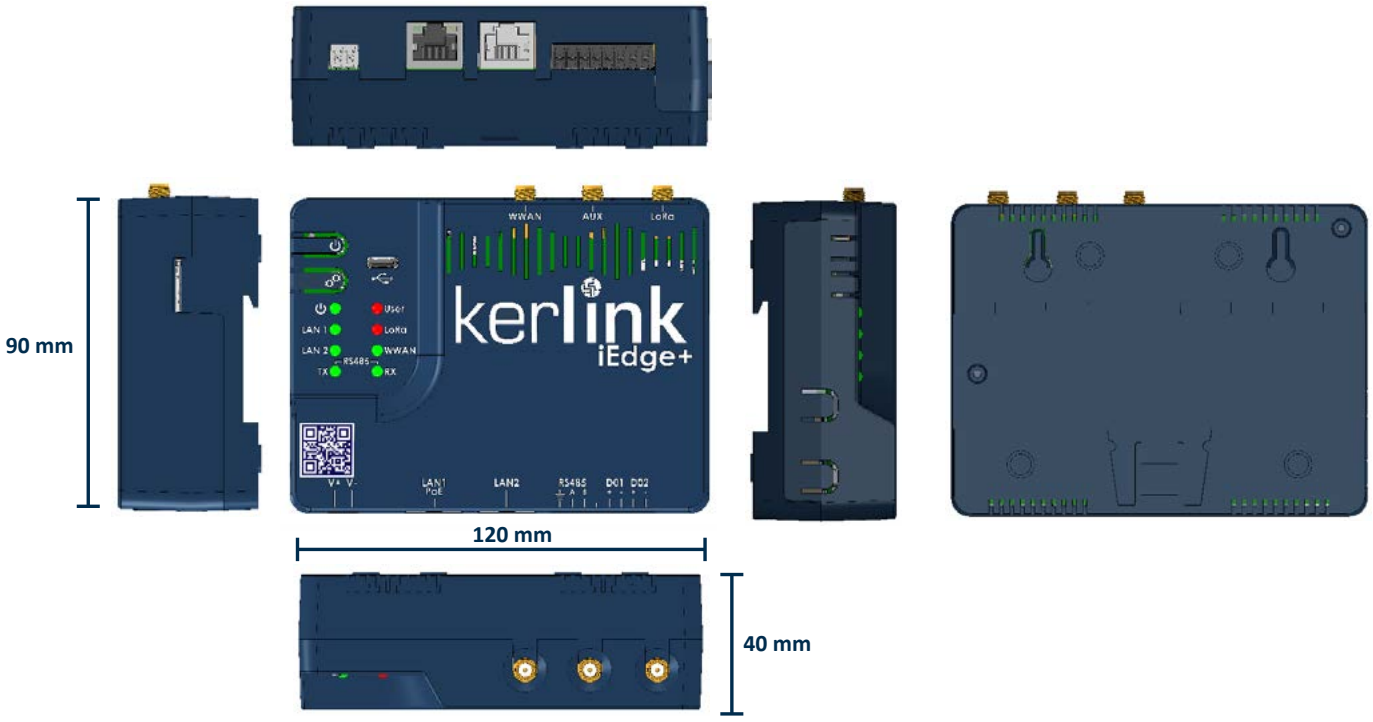
In France, Kerlink is certified ISO9001: 2015 by AFNOR certification. The Quality Management System gives high priority to Customer satisfaction and progress implementation.

afaq ISO 9001 Qualité AFNOR CERTIFICATION

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Certifications

868	915	923
• Europe	• USA • Canada	• Australia • New-Zealand • Japan • Singapore

Many other countries already planned, (additional information on demand)

Wirnet™ iEdge - Ordering references

Product Ordering References

Reference	Designation	Description	ISM Frequencies
PDTIOT-IED00	Wirnet iEdge 868 MHz	8CH LoRa, 1× ETH, 1× RS485, 2× DO, 1GB/4GB	863-874.4MHz
PDTIOT-IED03	Wirnet iEdge Cellular 868 MHz	8CH LoRa, 4G + 1× ETH, 1× RS485, 2× DO, 1GB/4GB	863-874.4MHz
PDTIOT-IEDP00	Wirnet iEdge+ 868 MHz	Dual-Core, 8CH LoRa, 2× ETH, 1× RS485, 2× DO, 2GB/16GB	863-874.4MHz
PDTIOT-IEDP03	Wirnet iEdge+ Cellular 868 MHz	Dual-Core, 8CH LoRa, 4G + 2× ETH, 1× RS485, 2× DO, 2GB/16GB	863-874.4MHz
PDTIOT-IED01	Wirnet iEdge 915 MHz	8CH LoRa, 1× ETH, 1× RS485, 2× DO, 1GB/4GB	902-928MHz
PDTIOT-IED04	Wirnet iEdge Cellular 915 MHz	8CH LoRa, 4G/5G + 1× ETH, 1× RS485, 2× DO, 1GB/4GB	902-928MHz
PDTIOT-IEDP01	Wirnet iEdge+ 915 MHz	Dual-Core, 8CH LoRa, 2× ETH, 1× RS485, 2× DO, 2GB/16GB	902-928MHz
PDTIOT-IEDP04	Wirnet iEdge+ Cellular 915 MHz	Dual-Core, 8CH LoRa, 4G/5G + 2× ETH, 1× RS485, 2× DO, 2GB/16GB	902-928MHz
PDTIOT-IED02	Wirnet iEdge 923 MHz	8CH LoRa, 1× ETH, 1× RS485, 2× DO, 1GB/4GB	915-928MHz
PDTIOT-IED05	Wirnet iEdge Cellular 923 MHz	8CH LoRa, 4G + 1× ETH, 1× RS485, 2× DO, 1GB/4GB	915-928MHz
PDTIOT-IEDP02	Wirnet iEdge+ 923 MHz	Dual-Core, 8CH LoRa, 2× ETH, 1× RS485, 2× DO, 2GB/16GB	915-928MHz
PDTIOT-IEDP05	Wirnet iEdge+ Cellular 923 MHz	Dual-Core, 8CH LoRa, 4G + 2× ETH, 1× RS485, 2× DO, 2GB/16GB	915-928MHz