

Wirnet™ iBTS 64 Highway

LoRaWAN® Outdoor Gateway for the Internet of Things



Specially designed for the North American market, the “Wirnet™ iBTS 64 Highway” provides the highest capacity of the Wirnet™ iBTS family allowing connectivity to the maximum number of LoRa sensors in your smart city, smart building or other smart project with outstanding outdoor coverage (more than 15km in direct line-of-sight and 2km in urban environment) and operational excellence.



Smart Cities



Smart Building



Smart Metering



Smart Agriculture & Environment

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



Key Features

- **Outdoor** LoRa® Gateway, Ingress protection (IP66),
- **Lifetime Guarantee**,
- Supported unlicensed bands : ISM 915 band: 902-915 MHz (Rx), 923-928 MHz (Tx)
- Supported LoRaWAN® regional parameters: US902-928,
- Full-Duplex Carrier-Grade LoRaWAN Gateway:
 - 64ch RX (125 kHz, multi Spreading Factor) + 8ch RX (500kHz, mono Spreading Factor) to get 72ch RX + 4ch TX (without antenna diversity)
 - (32ch + 32ch) RX (125 kHz, multi Spreading Factor) + (4 ch + 4 ch) RX (500kHz, mono Spreading Factor) + up to (4ch + 4ch) TX (with antenna diversity)
- Backhaul connectivity: Cellular 2G/3G/4G evolutive to 5G (mini-PCIe module), Ethernet 10/100 Mbps (RJ45), dual WAN as an option
- **Geolocation ready**: Using the fine timestamps on ALL the 64 channels for improved geolocation services thanks to FPGA. Fully compliant with Semtech reference design v2. No proprietary locked solution; **Synchronization with GPS, combines RSSI and TDOA measurements.**

Key Differentiators

High performance, reliability & future-proof

- Our product is **made in France**,
- Semtech Reference Design v2,
- Built-in high rejection filters,
- **LR-FHSS Ready: Evolutive design using modem SDR (Software Design Radio) architecture.**

Secure HW and SW architectures

- SecureBoot (Signed firmware),
- SecureStorage (keys and certificates in secured area) using Trusted Execution Environment solution,
- Secured links and backhaul protection (OpenVPN/ IPsec),
- Reboot (watchdog) and recovery on previous Management config (or factory config if the boot issue is not fixed).

All product specifications are subject to change without notice (V2.3)

A combination of performance, reliability and robustness

- Carrier grade with low heat dissipation (below 75°C in the casing) for a better robustness and reliability
- Internal cavity duplexer in the enclosure to reject interferences from adjacent bands by up to 130dB (<1GHz) and 100 dB (1to 3 GHz) and to get perfect simultaneity of Rx/Tx
- Rx Sensitivity: -135 dBm (125kHz/SF10), 140 dBm (125kHz/SF12)
- Ultra-secure HW and SW architectures: Secure core and secure bootstrap for market-leading protection:
 - Signed firmware management
 - Local and remote access and management
 - Secured links management and secured backhaul
 - Secure reboot (watchdog) and recovery on previous config (or factory config if the boot issue is not fixed)
- Lightning protections and robustness of LoRa link
- Backup batteries to allow the clean shut down of applications in case of power cut
- Casing: Operating
 - IP66
 - Range -40°C +60°C,
 - Size : 280 x 250 x 120 mm
 - Weight : 9kg

Technical Features

- Low energy consumption 30W
- Power: 11-56V (solar power possible 12 or 24V) or Power Over Ethernet (POE) with cable: 100m max
- TX Power: configurable from 5dBm to 30dBm,
- Range -40°C +60°C, (for gateway only, without power supply),
- Humidity: 5% to 95%,
- Out-band radio scanners to monitor the entire band to detect real load of the band (Spectrum analysis compliant),
- Supercapacitors for clean shut down of applications in case of power failure,

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.

Software Features

- **Same Kerlink software on all i-Series (for infrastructure homogeneity and easy maintenance)**
- **Dynamic web interface** (On-the fly modifications),
- **Programmable Gateway** : Toolchain, libraries and header files for compilation of in-house SW, or extra packages additions,
- **Including:**
 - Operating System: KerOS with embedded GNU/Linux based on Yocto LTS and Kernel LTS,
 - Native Language Support: Python 3, C/C++ and Shell,
 - Kerlink Common Packet Forwarder (Semtech Packet Forwarder, GWMP), Basic Station

 **kerlink**
communication is everything

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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)**
- Access to embedded Chirpstack LNS

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 Wanasy 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: sales@kerlink.com

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Wirnet™ iBTS 64 Highway - Ordering references

Product Ordering References

Reference	Designation	Description	ISM Frequencies
PDTIOT-MSS23	Wirnet iBTS 64 HIGHWAY 1WAN DOUBLE DUPLEXOR	64CH LoRa, 2G/3G/4G backhaul + ETH backhaul	902-928MHz

Common accessories for outdoor installation

KLK03524	Self-amalgamating tape - 3m	Mounting accessories for outdoor installation
KLK03540	Stainless Steel Hose clamp	Mounting accessories for outdoor installation

915 Accessory Ordering References (Wirnet™ iBTS 64 Highway)

PoE INJECTOR		Description
KLK02882	Power Supply	60W - DC/DC CONVERTER 48VDC input
KLK03550	POE Injector	PoE Injector - 60 W indoor - AC Input
KLK03506	POE Injector	PoE Injector 30 W indoor - AC Input - US
EXTERNAL ANTENNA (optional)		Description
ACCIOT-KAN02	Antenna	Antenna kit Omni 915/923 MHz 6 dBi
ACCIOT-KAN03	Antenna	Antenna kit Omni 915/923 Mhz 3 dBi
ACCIOT-KAN05	Antenna WAN + 5m cable + support included	Kit WAN 700-2700 MHz 5dBi - 5m - N Male
SURGE PROTECTION		Description
KLK02817	Surge Protection for POE link - Outdoor	PoE Surge protection - outdoor
KLK02818	Surge Protection for POE link - Indoor	PoE Surge protection - indoor
KLK02881	Surge Protection - DC Link - Indoor	DC Input
KLK02900	Surge Protection for Lora link - Outdoor	RF coaxial Surge protection - outdoor
DEBUG		Description
ACCWM2-SDE00	Debug Probe	Wirnet iBTS / Wirma Debug Probe