kerlink
communication is everything
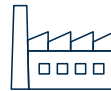
Wirnet™ iStation
LoRaWAN® Outdoor Gateway for the Internet of Things

The "Wirnet™ iStation" is the ideal gateway to support your smart city, smart industry or any other smart project, combining simplicity of installation, unique superior coverage and operational excellence.

Smart Cities

Smart Industry

Smart Metering

Smart Agriculture & Environment

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

Key Features

• **Outdoor LoRa® Gateway,**

• Carrier grade casing (**IP67**) for industrial use,

• 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,**

• Backhaul connectivity: 4G Worldwide module with 3G/2G fallback and Ethernet (RJ45),

• Powered by:

    — PoE (Injector, switch, …), both Mode A and Mode B (802.3af specifications),

    — +/- 48VDC through RJ45 (isolated power),

• **Highly secured device relying on a hardware secure core.**

Key Differentiators

High performance, reliability & robustness
• **Carrier grade design** with excellent heat dissipation
• Semtech Reference Design v1.5 components.

Security HW and SW architecture
• SecureBoot (Signed firmware),
• SecureStorage (keys and certificates in secured area) using ProvenCore™ solution,
• Secured links and backhaul protection (OpenVPN/IPsec),
• Reboot (watchdog) and recovery to previous Management config (or factory config if the boot issue is not fixed).

Wirnet™ iStation
LoRaWAN® Outdoor Gateway for the Internet of Things

Easy deployment

- No need to open the casing during installation (waterproof connectors for RJ45, SIM card…),
- Easy installation mounting kit,
- **Fully integrated and internal antennas** GPS, 4G, LoRa (peak gain=2,6dBi) : no external antenna installation required (external LoRa antenna 3dBi or 6dBi possible as an option),
- Easy access to connectivity:
    — Ethernet 10/100 Mbps (RJ45),
    — SIM card (mini-SIM format),
    — Two LEDs controlled by SW (programmable):
        - 1 x green LED for power,
        - 1 x red LED for system status (update, boot behavior, LoRa status, backhaul…),
- USB (Type C) connector for debug probe,
- Multifunction button for On/Off/Reset/Factory reset,
- Simple and convenient configuration, management, control and update using the Kerlink Wanesy™ Management Center (Alarm notifications, firmware upgrade, platform statistics, RF statistics, RF spectrum analyzer…),
- Remotely configurable, manageable, via intuitive Web GUI,
- Remote access via SSH.

Technical Features

- Sniffer for LBT (Listen Before Talk),
- Built-in high rejection SAW filters,
- Rx Sensitivity: -141 dBm (SF12),
- Conducted TX Power: configurable from 5dBm to 27 dBm,
- Range -40°C +60°C,
- Humidity: 95%,
- Size : 265 x 165 x 100 mm,
- Weight : 1,4kg (mounting kit included),
- Spectrum analysis compliant,
- Capacitor for clean shut down of applications in case of power failure,
- Casing: IP67 Alu (Back), Polycarbonate (Front), Inox (mounting kit),
- Surge protection of the RF LoRa link (option),
- CPU: ARM Cortex A9,
- DDRAM 256MB,
- 8GB eMMC (6GB available for user),

Software Features

- **Same Software as Wirnet™ iBTS and iFemtoCell:** same user experience, quicker integration,
- **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 2.4 and LTS kernel 4.14,
- Native Language Support: Python2, C/C++ and Shell,
- Included packages: SQlite (Database), Connman/Ofono, NTPd, lighttpd.

Value-added Services

- **Free access to Kerlink Wiki for customers**
- Plug & Play installation (option),
- Wirnet™ iStation is part of the end-to-end LoRa® connectivity solution with Kerlink Wanesy™ Management Center, remote monitoring and Operations Management suite (option),
- Wanesy™ SPN2 for Small Private Network, embedding a LoRa Network Server on the Gateway (option),
- Maintenance Services (option),
- Kerlink Project Management: a comprehensive service offering and a global network of specialist integrators to support your entire project.

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:

kerlink
communication is everything

sales@kerlink.fr
+ 33 2 99 12 29 00
1 rue Jacqueline Auriol
35235 Thorigné-Fouillard
France

All product specifications are subject to change without notice (V2.2)

kerlink
communication is everything

Wirnet™ iStation
LoRaWAN® Outdoor Gateway for the Internet of Things

265 MM

165 MM

100 MM

Certifications

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

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

Wirnet™ iStation - Ordering references

Product Ordering References

Reference	Designation	Description	ISM Frequencies
PDTIOT-ISS04	Wirnet iStation 868 MHz	8CH LoRa, 2G/3G/4G backhaul + ETH backhaul	863-874.4MHz
PDTIOT-ISS05	Wirnet iStation 915 MHz	8CH LoRa, 2G/3G/4G backhaul + ETH backhaul	902-928MHz
PDTIOT-ISS06	Wirnet iStation 923 MHz	8CH LoRa, 2G/3G/4G backhaul + ETH backhaul	915-928MHz

All product specifications are subject to change without notice (V2.2)

868 Accessory Ordering References

POE INJECTOR

		Description	Recommendation
KLK02681	POE Injector	PoE Injector 30 W Indoor - AC Input - EU	
KLK02855	POE Injector	PoE Injector 30 W Indoor - 48VDC Input	
KLK02953	POE Injector	PoE Injector 30W 55V Outdoor	

EXTERNAL ANTENNA (optional)

KLK03198	Antenna	Antenna Omnidir 868Mhz 3 dBi - N male	
ACCIOT-KAN01	Antenna	Antenna kit Omni 868 MHz 6 dBi	

(Outdoor) CAVITY FILTER

KLK02523	Cavity filter 865-867 MHz	India	
KLK03410_01	Cavity filter 865-870 MHz	865-870 MHz, EU coexistence LTE800, RGSM	

SURGE PROTECTION

KLK02817	Surge Protection for POE link - Outdoor	PoE Surge protection - Outdoor	Recommended
KLK02818	Surge Protection for POE link - Indoor	PoE Surge protection - Indoor	Recommended
KLK02900	Surge Protection for Lora link - Outdoor	RF coaxial Surge protection - Outdoor	Recommended

DEBUG

ACCIOT-SDE01	Debug Probe	Universal Debug Probe	

915 Accessory Ordering References

POE INJECTOR

		Description	Recommendation
KLK02765	POE Injector	PoE Injector 30 W Indoor - AC Input - US	
KLK02855	POE Injector	PoE Injector 30 W Indoor - 48VDC Input	
KLK02953	POE Injector	PoE Injector 30W 55V Outdoor	

EXTERNAL ANTENNA (optional)

ACCIOT-KAN02	Antenna	Antenna kit Omni 915/923 MHz 6 dBi	
ACCIOT-KAN03	Antenna + 1m cable + support included	Antenna kit Omni 915/923 Mhz 3 dBi	
KLK03199	Antenna	Antenna Omnidir 915Mhz 3 dBi - N male	

SURGE PROTECTION

KLK02817	Surge Protection for POE link - Outdoor	PoE Surge protection - Outdoor	Recommended
KLK02818	Surge Protection for POE link - Indoor	PoE Surge protection - Indoor	Recommended
KLK02900	Surge Protection for Lora link - Outdoor	RF coaxial Surge protection - Outdoor	Recommended

(Outdoor) CAVITY FILTER

KLK02973	Cavity filter 902-928MHz	USA, Canada, Mexico	

DEBUG

ACCIOT-SDE01	Debug Probe	Universal Debug Probe	

923 Accessory Ordering References

POE INJECTOR

		Description	Recommendation
KLK02855	POE Injector	PoE Injector 30 W Indoor - 48VDC Input	
KLK02681	POE Injector	PoE Injector 30 W Indoor - AC Input - EU	
KLK02765	POE Injector	PoE Injector 30 W Indoor - AC Input - US	
KLK02953	POE Injector	PoE Injector 30W 55V Outdoor	npliant with fixation kit KLK03

EXTERNAL ANTENNA (optional)

ACCIOT-KAN02	Antenna	Antenna kit Omni 915/923 MHz 6 dBi	
ACCIOT-KAN03	Antenna + 1m cable + support included	Antenna kit Omni 915/923 Mhz 3 dBi	
KLK03199	Antenna	Antenna Omnidir 915Mhz 3 dBi - N male	

SURGE PROTECTION

KLK02817	Surge Protection for POE link - Outdoor	PoE Surge protection - Outdoor	Recommended
KLK02818	Surge Protection for POE link - Indoor	PoE Surge protection - Indoor	Recommended
KLK02900	Surge Protection for Lora link - Outdoor	RF coaxial Surge protection - Outdoor	Recommended

(Outdoor) CAVITY FILTER

KLK02522	Cavity filter 920-925 MHz	South Korea, Singapore, HK, Taiwan, Thailand, Cambodia	
KLK02905	Cavity filter 918-923 MHz	Indonesia Malaysia, Vietnam, Mynanmar	
KLK02906	Cavity filter 915-920 MHz	Philippines, Israel, Cuba	
KLK02909_01	Cavity filter 920-928 MHz	New-Zealand, Japan, Costa Rica, Venezuela	
KLK03306	Cavity filter 915-928 MHz	APAC, LATAM	

DEBUG

ACCIOT-SDE01	Debug Probe	Universal Debug Probe	

All product specifications are subject to change without notice (V2.2)