

Wirnet™ iStation M2

LoRaWAN® Outdoor 8 channels Gateway for the Internet of Things



The Wirnet™ iStation M2 is a new-generation gateway designed for outdoor project, combining ultra-low power consumption, solar panels compatibility, superior coverage and operational excellence with effortless installation



Smart Cities
& Public Operators



Smart Metering



Smart Agriculture
& Environment

Key Features

- **Outdoor LoRa® Gateway**
- Carrier grade casing (**IP67**) for industrial use
- Supported unlicensed bands : 863-873MHz (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 (125kHz BW, 8 x 8 channels LoRa® packet detectors 8 x SF5-SF12 LoRa® demodulators, 8 x SF5-SF10 LoRa® demodulators) + 1ch RX (250kHz or 500kHz, mono Spreading Factor LoRa® demodulator) + 1ch RX (FSK) to get 10ch RX + 1ch TX
- Backhaul connectivity: **4G/5G cellular, Ethernet, Wi-Fi,**
- Powered by:
 - PoE+ (Injector, switch, ...), both Mode A and Mode B (802.3af/at specifications)
 - Auxiliary DC supply (12V nominal)
 - Compatible with solar panel (low power consumption)
- Highly secured device relying on a Trustzone firmware
- Certifications: CE, FCC, ISED - refer to Kerlink Wiki for

Key Differentiators

High performance, reliability & robustness

- **Lifetime Guarantee**
- Product **developed and manufactured in France**
- Low power consumption record
- **Carrier grade and robust design with excellent heat dissipation**
- Quick and easy installation for rapid deployment
- Semtech LoRa® Corecell Gateway Reference Design

Security HW and SW architecture

- 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 to previous Management config (or factory config if the boot issue is not fixed)

Easy deployment

- No need to open the casing during installation (waterproof connectors for RJ45, SIM card...)
- Easy installation mounting kit
- 4 internal antennas: Main and auxiliary cellular (diversity), GNSS, Wi-Fi/BLE
- 1 external antenna: LoRa
- Easy access to connectivity:
 - Ethernet 10/100 Mbps (RJ45)
 - Modem LTE Cat6 or 5G RedCap in M.2 format, with worldwide coverage
 - SIM card (mini-SIM format)
- 10-56VDC auxiliary DC input
- Two LEDs controlled by SW (programmable):
 - 1 x green LED for power
 - 1 x red LED for system status (update, boot behavior, power...)
- USB (Type C) connector for configuration & debug probe
- Multifunction button for On/Off/Reset/Factory reset
- Remotely configurable, manageable, via intuitive Web GUI

Technical Features

- Sniffer for LBT (Listen Before Talk)
- VSWR measurement at antenna port antenna adaptation measurement and radio auto diagnostic tools
- Auxiliary DC voltage monitoring
- Gateway current consumption measurement
- Built-in high rejection SAW filters
- Rx Sensitivity: - 127dBm to - 140dBm
- Conducted TX Power: configurable from 0dBm to 27dBm,
- Range -40°C +60°C
- Humidity Range : 0-95%
- Approx. weight: 1.3 kg (mounting kit included)
- Approx. Size: 265 x 165 x 95 mm
- In-band and out-of band spectrum analysis
- Internal battery storage 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),
- Embedded surge protection on Ethernet and DC input (gas tube)
- CPU & Memory: iMX8X Lite processor, 8GB eMMC, 1GB LPDDR4 RAM
- LoRa range: Semtech SX1282 + 2x SX1250, SX1282, ready

Solar Panel Deployment



- Compatible with Kerlink Solar kit powering
- 2 sizes available: 80Wc and 30Wc
- Internal battery 12V - 52 Ah
- 10 days Autonomy, 100% availability 24/7, 365 days a year

Software Features

- Same Kerlink software on all KerOS 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: Python3, C/C++ and Shell,
 - Kerlink Common Packet Forwarder (Semtech Packet Forwarder, GWMP), Basic Station
- Compliance with the EU RED Delegated Act 2022/30 (RED Cyber)

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.

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)**
- Integration with main LNS providers (Netmore, Actility, Lorient, ChirpStack, Orbiwise, TTN)

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



Wirnet™ iStation M2 - Ordering references

Product Ordering References

Reference	Designation	Description	ISM Frequencies
PDTIOT-ISM200	Wirnet iStation M2 868 MHz	8CH LoRa, 4G backhaul + Wifi backhaul + ETH backhaul	863-873 MHz
PDTIOT-ISM201	Wirnet iStation M2 915 MHz	8CH LoRa, 5G backhaul + Wifi backhaul + ETH backhaul	902-928 MHz
PDTIOT-ISM202	Wirnet iStation M2 923 MHz	8CH LoRa, 4G backhaul + Wifi backhaul + ETH backhaul	915-928 MHz

Autonomous Kit Ordering References

Reference	Designation	Description
ACCOT-AK00	30Wc Autonomous kit	Autonomous kit 30Wc, 320Wh battery
ACCOT-AK01	80Wc Autonomous kit	Autonomous kit 80Wc, 640Wh battery
ACCOT-BP00	Bird protection	Bird protection for autonomous kit

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

868 Accessory Ordering References

PoE INJECTOR		Description	Recommendation
KLK03525	POE Injector	PoE Injector 30 W indoor – 48V DC Input	
KLK03505	POE Injector	PoE Injector 30 W indoor - AC Input - EU	
KLK03554	In addition to KLK03505	AC Power supply cable for UK (IEC-320-C13)	
KLK03596	POE Injector	PoE Injector - 30 W Outdoor - AC Input	
EXTERNAL ANTENNA (optional)			
KLK03198	Antenna	Antenna Omnidir 868MHz 3 dBi - N male	
ACCOT_KAN00	Antenna + 1m cable + support included	Antenna kit Omni 868MHz 3dBi	
ACCOT-KAN09-02	Antenna + 1m cable + support included	Antenna kit Omni 863-928 MHz	
(Outdoor) CAVITY FILTER			
KLK03410	Cavity filter 865-870 MHz	865-870 MHz, EU coexistence LTE800, RGSM	
KLK02523	Cavity filter 865-867 MHz	India	
KLK02916	Cavity filter 863-873 MHz	EU coexistence high power emitters	Former ACCOT-CAV04
SURGE PROTECTION			
KLK03806	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			
ACCOT-SDE01	Debug Probe	Universal Debug Probe	

915 Accessory Ordering References

PoE INJECTOR		Description	Recommendation
KLK03525	POE Injector	PoE Injector 30 W indoor – 48V DC Input	
KLK03505	POE Injector	PoE Injector 30 W indoor - AC Input - EU	
KLK03506	POE Injector	PoE Injector 30 W indoor - AC Input - US	
KLK03596	POE Injector	PoE Injector - 30 W Outdoor - AC Input	
EXTERNAL ANTENNA (optional)			
KLK03199	Antenna	Antenna Omnidir 915/923MHz 3 dBi - N male	
ACCOT-KAN03	Antenna + 1m cable + support included	Antenna kit Omni 915/923 Mhz 3 dBi	
ACCOT-KAN09-02	Antenna + 1m cable + support included	Antenna kit Omni 863/928 MHz 6 dBi	
SURGE PROTECTION			
KLK03806	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			
ACCOT-SDE01	Debug Probe	Universal Debug Probe	

923 Accessory Ordering References

		Description	Recommendation
PoE INJECTOR			
KLK03505	PoE Injector	PoE Injector 30 W indoor - AC Input - EU	
KLK03055	In addition to KLK03505	AC Power supply cable for Japan (IEC-320-C13)	
KLK03553	In addition to KLK03505	AC Power supply cable for Australia (IEC-320-C13)	
KLK03596	PoE Injector	PoE Injector - 30 W Outdoor - AC Input	
EXTERNAL ANTENNA (optional)			
KLK03199	Antenna	Antenna Omnidir 915/923Mhz 3 dBi - N male	
ACCIOT-KAN03	Antenna + 1m cable + support included	Antenna kit Omni 915/923 Mhz 3 dBi	
ACCIOT-KAN09-02	Antenna + 1m cable + support included	Antenna kit Omni 863/928 MHz 6 dBi	
SURGE PROTECTION			
KLK03806	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, Myanmar, South-Korea	
KLK02906	Cavity filter 915-920 MHz	Philippines, Israel, Cuba	
KLK03306	Cavity filter 915-928 MHz	APAC, LATAM	
KLK02909	Cavity filter 920-928 MHz	New-Zealand, Japan, Costa Rica, Venezuela (former ACCIOT-CAV03)	
DEBUG			
ACCIOT-SDE01	Debug Probe	Universal Debug Probe	