

IoT Wireless Unit

MN-0072-LK – MN-0073-LK

IoT Wireless Unit

- Wireless data transmission with LoRa™ technology
- Up to three years battery life
- Wireless range (from main unit): up to 8000 m.
- Up to 11 analog and digital inputs
- ABS UV-stabilized outdoor case
- Integrated PCB antenna
- Small size and compatible with on-field operations

APPLICATIONS:

Internet of things compliant wireless distributed monitoring
Precision agriculture
Real time environmental monitoring



Description

The MN-0072-LK wireless unit is a product designed and developed by Netsens s.r.l. and made in Italy.

The product is based on a communication system based on LoRa modulation scheme, and according to Internet Of Things (IoT) technology. It achieves extremely advanced communications performance, even compared to previous versions.

The low power consumption and energy optimization algorithms allow the wireless unit to run continuously for years (depending on the number and type of sensors) with a single lithium battery, that can be easily replaced.

The integrated antenna and the sturdy and small box do not interfere with the most common mechanical operations in the field, making installation easy and reducing maintenance costs. The unit has an internal display and a selector for setup and configuration, and a unique radio coverage test system.

Among the many applications where these IoT devices can be successfully implemented, precision agriculture and environmental monitoring for "Early Warning" can be remarked, as well as all applications where it is necessary to have a reliable and robust wireless sensor network.

Electrical specification

Power supply: 3.6 V lithium C size Battery Reverse polarity protection.

Remotely measurement of battery level and replacement warning.

Communication: 868 MHz, spread spectrum

Input channels

- 4 x RS485
- 1 x I2C
- 3 x 0-3 V
- 2 x 0-3 V o 4-20 mA
- 1 x digital pulse (N/O)

Mechanical Characteristics:

Operating temperature: -20 ° C +60 ° C

Protection: IP 56

Weight: g. 330 (excluding sensors)

Plastic, ABS

Sizes: 170x120x50 mm

Additional features:

- Integrated Antenna
- LCD display for setup and configuration
- USB port for local configuration
- Radio coverage check utility
- Compliant with SRD (Short Range Devices) regulation, for unlicensed operation in EU Countries

Available Sensor:

THSense: air temperature and humidity sensor, with passive solar screen;

E-Leaf: leaf wetness sensor (2 channels);

TerraSense: soil moisture sensor (up to 2 sensors in parallel, at different depths);

EsSense: diameter growth sensor (up to two sensors per unit, or 1 EsSense sensor and 1 E-Leaf);

EC Sense: soil conductivity sensor (instead of one TerraSense sensor)

RainSense: digital pulse output rain collector

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Installation:

The wireless unit installation is very easy thanks to an effective system for verifying the wireless coverage. The box can be secured to a support provided with the appropriate brackets, or (on request) with a pole clamp (diameter 50 mm).



Figure 1 – Rear View



Figure 2 – Unit with hanging stirrup

Traceability, packaging and shipping:

Each wireless unit is individually tested and a unique identifying serial number is assigned, which allows tracking over time; this code can be printed on the shipping carton, on the unit itself or alternatively on the appropriate section of the user manual. Please keep this code carefully, to be communicated to the technician in case of failure or replacement.

Units are sold individually equipped with its own package, which will protect the sensor during transport. If the box is open or visibly damaged, don't accept delivery by courier. Do not open the box with knives, cutter blades, which could damage the sensor or its cable.

Ordering Codes:

MN-0072-LK	IoT Wireless unit, 868 MHz
MN-0073-LK	IoT Receiver unit, 868 MHz

NOTE: all technical information contained in this document may change without notice

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Warranty:

Netsens s.r.l. warrants that the above described components will be free from defects in material and workmanship for the following time period from the purchasing:

- Two years for items purchased by final users for non professional use;
- One year for items purchased by companies and organizations for professional use.

This warranty is valid only if all the components are used accordingly to the Manufacturer's indication and to the recommendations included in this User Manual.

This warranty does not cover: batteries, fuses, lights and any other consumable equipment. Also this warranty does not apply for damages due to neglect, misuse, contamination, alteration, accident or abnormal conditions of operation or handling, including failures caused by use outside Manufacturer specifications.

This warranty covers the original purchaser and it is not transferable.

If one or more components are supposed to be defective, contact Netsens s.r.l. or your local reseller in order to obtain a valid return authorization.

Netsens s.r.l. shall not be liable for any special, indirect, incidental or consequential damages or losses, arising from any cause.

Please contact Netsens s.r.l. for any additional information concerning warranty.

Disposal of Waste Electrical & Electronic Equipment:



Disposal of Waste Electrical & Electronic Equipment:

The symbol (crossed out wheeled-bin) on your product indicates that the product shall not be mixed or disposed with your household waste at their end of use.

The product shall be handed over to your local community waste collection point for recycling of the product.

For more information, please contact your Government Waste Disposal department in your country.

Inappropriate waste handling could possibly have a negative effect on the environment and human

health due to potential hazardous substances.

With your cooperation in the correct disposal of this product, you contribute to reuse, recycle and recover the product and our environment will be protected.

Revisions:

Date	Version	Page(s)	Modifications
12/03/2019	1.0	1-4	First release