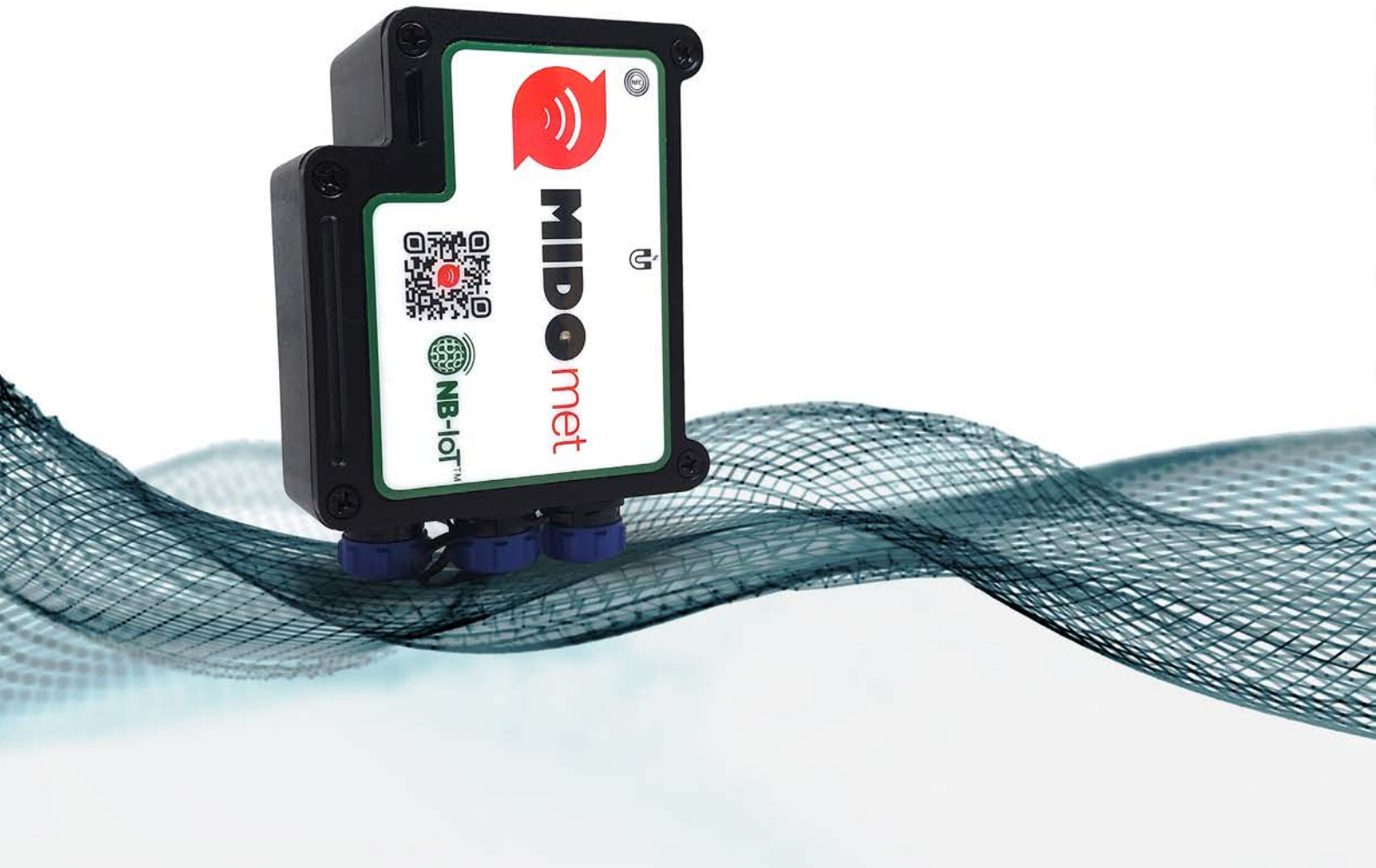
MIDOmet
smart metering

MiDoMet NBIoT Pressure

Smart metering via NB-IoT network
easy and reliable



MiDoMet NBIoT Pressure

MiDoMet NBIoT Pressure is the specialized NBIoT datalogger for **monitoring network pressure (or level)** MiDoMeT NB-IoT is a self-powered universal device with extensive functionality. Through the 2 digital inputs it can be used to remotely read **impulse meters**, for billing purposes or to monitor the water network. The analog input can be used to collect data from **4-20mA or 0-5V sensor**, like temp probe, pressure probe, level probe etc.
It is equipped with an NB-IoT modem for remote data transfer through open **MQTT** protocols. MiDoMet NBIoT is a robust and reliable device and thanks to the **IP68** protection degree it can therefore be installed in any environment.
The device can be supplied **complete with pressure (or level) probe** and battery pack.
The device can be provided complete with **pressure sensor (or level)** and **SIM and data traffic for 10 years.**

FEATURES

- 2 digital inputs for meters or sensors
- 1 analog input 4-20mA or 0-5V
- 4G NBIoT connectivity
- Resistant to hostile environments with IP68 protection
- Self-powered (more than 10 years of autonomy and replaceable battery)

The device is equipped with the battery sector separate and isolated from that of electronics to allow the easy replacement and at the same time to guarantee the IP68 protection, thanks to which it is possible to install it in hostile environments or even in immersion.
With MiDoMet NBIoT it is possible to create an **NBIoT fixed network remote reading system**, to remotely read data from digital sensors, overcoming the limits of a concentrator network,and reaching the most remote users, thanks to the use of the 4G NBIoT communication network.
The device is supplied **complete with SIM and connectivity** for the entire duration of the service (* Plug & BeFree contract) avoiding to sign agreements with NB-IoT suppliers.

REMOTE METER READING
for billing purposes or network monitoring

IP68 GRADE PROTECTION
Can be installed even in hostile enviroment

COLLECT DATA FROM SENSORS
4-20mA o 0-5V

OPEN PROTOCOLS
MQTT
MQTTS

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FUNCTIONALITY

Guaranteed performances in terms of number and frequency of transmissions
The reading sampling takes place by default every 60 minutes, and every day the 24 readings are sent. This configuration guarantees a battery life that is up to 10 years.
Furthermore, thanks to the bidirectionality of the communication, sampling frequency and data sending frequency can be changed remotely, for example to start sampling campaigns at a higher frequency **up to a sample every 5 minutes** to analyse one or more defined points.

Storage capacity of the acquired data on the devices
MiDoMet NBIoT is equipped with an internal backup memory for data storage. n the absence of communication events the data are not cancelled but kept in memory• the total consumption month by month,
Up to **7100 reading samples** can be stored in the memory in the case of a configuration with 4 digital inputs, and up to **5000 reading samples** in the case of a configuration with 2 digital inputs,

Data and alarms
In each communication message, the MiDo reports in the message header all the information necessary for reconstruction of the consumption profile: num. pulses, units of measurement, multiplies.
It is possible to configure asynchronous communication of the change in status/alarm on the status input.

Intelligent algorithms and Edge computing
The device calculates on board (edge computing) the **maximum and minimum flow** in the range between two communications. It is also possible to activate an **intelligent algorithm** for characterizing the consumption profile, capable of **autonomously detecting and communicating any critical situations** (current leak, excess consumption compared to the average).

Remote programming of the device
In Midomet NBIoT communication is bidirectional and allows the device to receive commands and/or to configure the parameters remotely:

- configuration of analog and digital entrances,
- sampling and reading frequencies,
- Configuration communication parameters (SIM, operator, frequency band) and the remote server,
- Configuration sampling and data transmission parameters,
- alignment/realignment of the counting value with the mechanical counter.

Communication protocol and interoperability with third-party data management systems
MiDoMet NBIoT is an **open and interoperable device**, data can be easily integrated into third-party or pre-existing information systems, thanks to the standard protocol used: **MQTT (or MQTTS)**.

MiDoMet Soft &Cloud
Or, the system can be supplied complete with MiDoMet Soft cloud software. MiDoMet Soft is the software created for the analysis and management of data relating to smart metering systems, which allows operators to constantly analyse the data, simple and immediate supervision of the network, as well as the possibility of being promptly alerted in case alarm when thresholds are exceeded.

Device programming and maintenance
It is possible to access the device locally via the **NFC interface and App** with your smartphone, to view data from the readings of inputs such as: total liters/cubic meters, pressure detected, voltage/ internal battery status, etc.
Through the maintenance menu it is possible to carry out various operations: configuring digital inputs, analog inputs and outputs, communicating with servers for sending data, performing NBIoT signal tests.
The presence of a led on the membrane allows you to check the status and success of all operations.
In addition, there is a magnetic button, with which it is possible to make instant checks on the device status.

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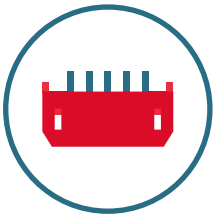


INPUTS

Digital Inputs	2
Analog Inputs	1 (0-5V or 4-20mA)

ANALISYS

CPU	Arm® Cortex-M4 32-bit
STORAGE	DataFlash 4MByte + 64KBit di Backup

POWER

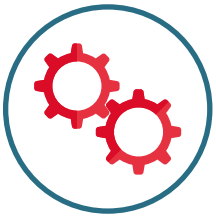
Battery	External (38Ah replaceable battery pack) + HPC1520 (Internal backup battery pulse capacitor)
220VAC Power supply (optional)	220VAC (AC/DC internal transformer with IP68 cable for connection supplied)
Solar panel (optional)	4W panel, including charge controller and 6-cell ER18650 battery pack. Total capacity 18000mAh

COMMUNICATION

NBIoT Modem	SIM7020E NBIoT
Supported Protocol	MQTT / MQTTS
Antenna	Internal antenna Or External one (optional)

INTERFACES

External access	NFC e APP
Interaction	Magnetic Key
Visual signal	Led Light



MECHANICAL CHARACTERISTICS

Assembly	dowels Ø 6
Temperature cond.	Working temperatures:-20/55 C °
Protection Level	IP68

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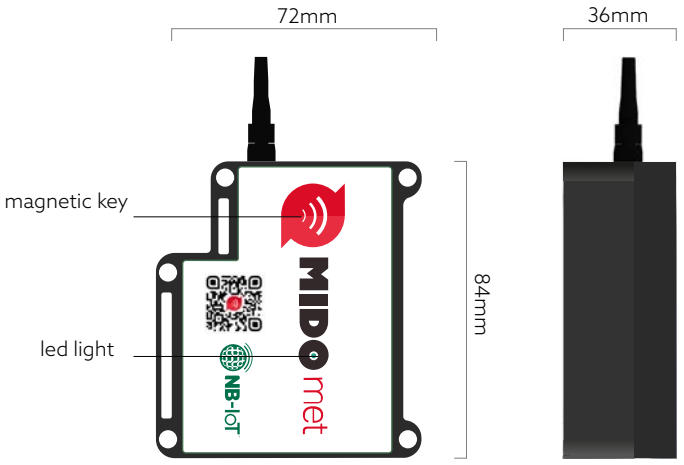
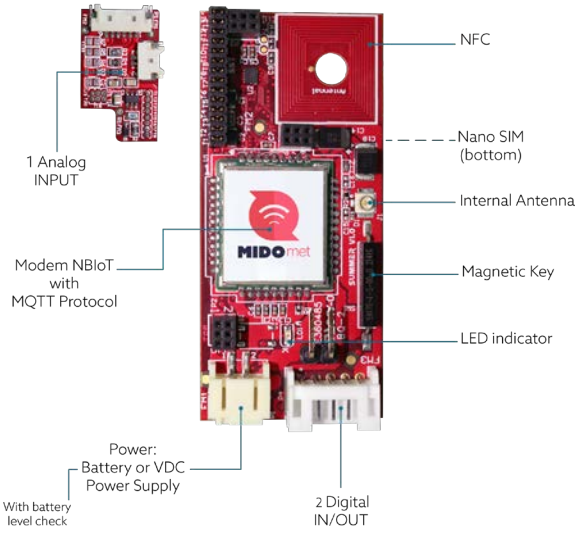
INTERFACE AND DIMENSIONS





INCLUDED ACCESSORIES

MD.CAB.LIYY.4P

Cable for digital input (output) wiring 50cm Unitronic® LiYY 26AWG + IP68 4 pin gold-plated brass connector + sealing cap

MD.CAB.LIFYY.4P

50cm Unitronic® LifYY 26AWG analogue input wiring cable complete with IP68 4-pin gold-plated brass connector and sealing cap

OPTIONAL ACCESSORIES

MD.ANT.EXT.2DB

External antenna with IP68 protection

MD.PRO.COAX.1M

Coaxial extension cable SMA (male) to SMA (female) RG174 length 1m

MD.JBOX.M686

IP68 compensation chamber for relative pressure or level sensor complete with breathing valve

MD.CON.12

IP68 splitter connector (1 input wire and 2 output wires) for digital inputs for wiring pulse emitters or digital outputs.

CONFIGURATION OPTIONS

				POWER SUPPLY		
VERSION	**Digital Inputs**	**Analog Inputs**	**Antenna***	**Battery**	**220V Power Supply**	**Solar Panel**
MD.NB.1.15.3	2	1	Internal	External 38Ah + HPC1520**		
MD.NB.1.15.3.VA	2	1	Internal	HPC1520 **	MD.ALI.1.2.36	
MD.NB.1.15.3.PS	2	1	Internal	HPC1520**		MD.PS.4W

*External antenna option available

**Internal backup battery pulse capacitor

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