

NBIOT™

smartenize meters



with the SMAQ-RL radiologger



SMAQ-RL

the radiologger for smartenizing water meters

SMAQ®-RL is the newest radio logger devoted to remote metering of water meters.

Smart Water Metering via NB-IoT™: SMAQ-RL exploits the new cellular network, dedicated to the internet of things, enabling the provider to overcome a very important and expensive series of restrictions generated by the different solutions nowadays used to collect the data of interest (walk-by, drive-by, private radio network, ...). Through NB-IoT™, SMAQ-RL is **able to send meter reading data directly in digital format to the central software acquisition** platform (SAC) and from here they can be available to third-party systems in a totally automated way. Furthermore SMAQ-RL allows to obtain, again through the NB-IoT™ network, **useful information to identify anomalous situations** that suggest, for example, existing water leaks and/or tampering.

SMAQ-RL collects and sends data using **open and standard communication protocols** to allow the provider to avoid the "vendor lock-in" risk both for meters and communication devices.

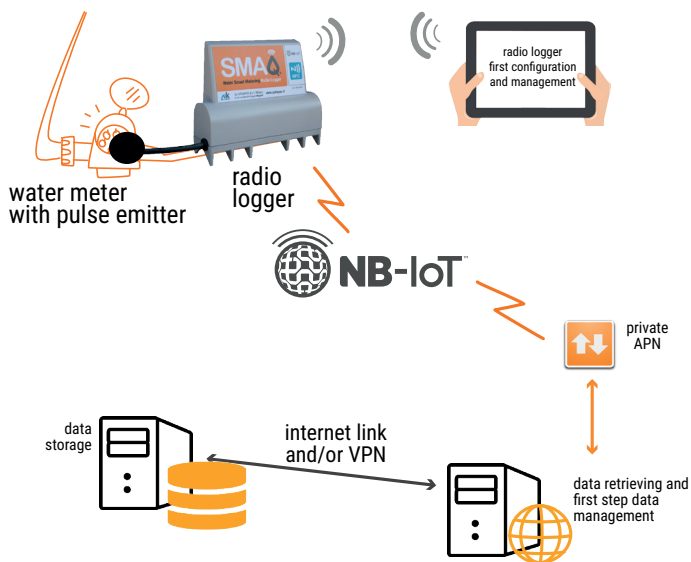
SMAQ-RL is an open solution designed to manage data retrieved from **meter of any brand and flow capacity** among the most common currently available on the market.

It is equipped with non rechargeable lithium batteries that give it an **operational autonomy of 10 years**, according to the transmission methods applied.

Thanks to the SMAQ **APP** for **smartphone/tablet** and a wireless link, configuration and maintenance activities are more precise, easier and faster.



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Connections and interfaces

- NB-IoT™ module based on compatible with the release 13 of the standard 3GPP; uplink band up to 20 kbps and downlink up to 250 kbps; use of embedded SIM; compliant with the European RED regulations
- NFC EEPROM module, embedded NFC antenna placed in the part of the case externally identified by a specific label; ISO 15693 standard contactless; 13.56 MHz frequency; R/W distance up to 30 mm; 64kbit capacity; writing cycles ≥ 1 million; protection password
- interface for connecting to the pulse emitter of any water meter ready for remote reading

Mechanical features

- dimensions 115x40x100 mm (antenna included)
- weight 200 g.
- External case in ABS self-extinguishing material, according to the UL 94-V0 standard
- fixing on pipe with zip ties or wall mounting with external adapter
- IP68 protection

Environmental conditions of functioning and reliability

- Nominal operating conditions: da -25°C a +55°C
- Limit conditions of operating: -25°C a +70°C
- Failure rate better than 1,00% per year
- Expected life ≥ 10 years
- compliant with 2004/108/EC standard, RED 2014/53/EU, 2011/65/CE (RoSH2) directive, CEI EN 60529, IEC 60068-2-75 60068-2-27 60068-2-6 60068-2-2 60068-2-56 60068-2-1 60068-2-14 standard

high and reliable metering and monitoring of the integrated water service, at any time and on the public NB-IoT™ network

The radiologger is supplied complete with NB-IoT™ e-SIM and can be installed in just a few minutes, in combination with any meter already designed for remote metering.

As soon as installed, through the accessory device NFC and a simple and intuitive APP for tablet/smartphone, the technician can configure the radiologger to match it to the user and perform technical start-up activities (e.g. reading alignment, communication test and the like). Once this phase has been completed, the radiologger is operational and, for the entire life of the meter, sends retrieved data on consumption, day/night volumes, maximum/minimum flow rates, reflux volumes only, pulse counter diagnostics, fraud diagnostics (e.g. removal of the encoder cable, overflow and similar), battery status diagnostics, presumed leakage alarm and others.

Main features

- Compliant with the UNI/TS 11291-3 technical specification concerning the smart metering and the interchangeability of the related equipments
- Retrieving of the meter reading data via pulse emitter installed on the meter (2, 3 or 5 conductors)
- Storage of meter reading data on a specific non-volatile memory, able to save, at least, 2 months of registers
- Ultra low power control microprocessor ARM®
- Data communication via public NB-IoT™ network (narrow band internet of things) and UDP protocol
- NFC communication for device first configuration via tablet, directly on field
- Clock and calendar management
- Totalizing register of water consumption, based on configurable time slots
- Secure transmission of water consumption data granted by use of network access password and encrypted protocols
- Diagnostics
- Remote firmware updating
- Very long battery life (up to 10 years)
- Case with IP68 protection level (resinated cable)
- Anti-tempering controls (e.g. cutting detection of the cable between radiologger and pulse emitter)
- It can cooperate with SAC (i.e. central acquisition software platform) even of third party

Available in different versions, for residential and for large users



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