

# WATER METER TELEMETRY

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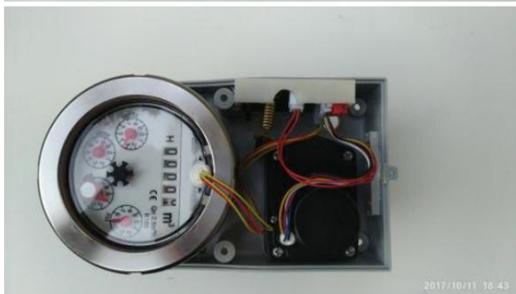


## SkyMeter Hydro edition (SM-HL)

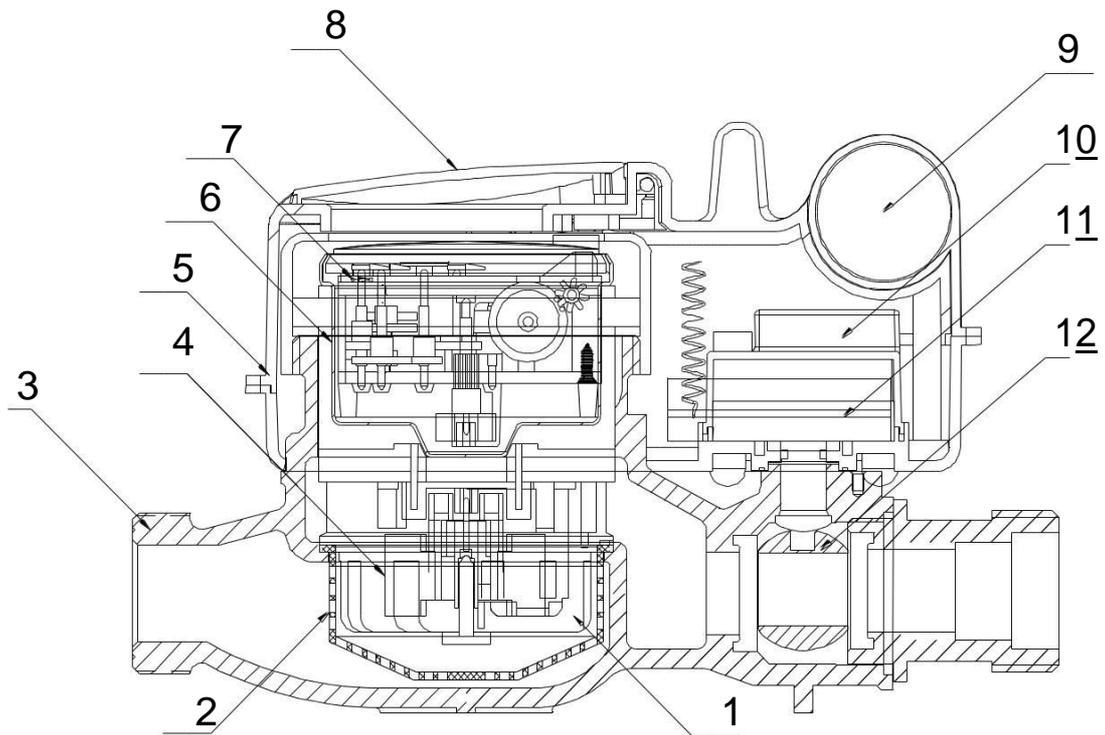
SkyMeter is placed on the water supply and offer the following features:

- Highly accuracy of water flow measurement R160
- Features a long-life magnetic flow sensor (pulse output)
- Sends measurement data wirelessly
- Remote valve control (opening / closing of the solenoid valve)
- NFC to instantly recognize the meter (contactless)
- Internal tamper sensor installed
- Motion sensor with immediate alarm in case of activation (anti-tampering)
- Remote monitoring of battery status
- Has an internal shut off valve
- Valve control can be automatically scheduled (eg. switch off between 12: 00 – 14:00)
- a dedicated LoraWAN radio module
- easy battery change without the need to open the body
- Certifications MID 2004/22/EC και EN 14154-1:2005+A2:2011

Images of meter:



### Cross section of the smart water meter



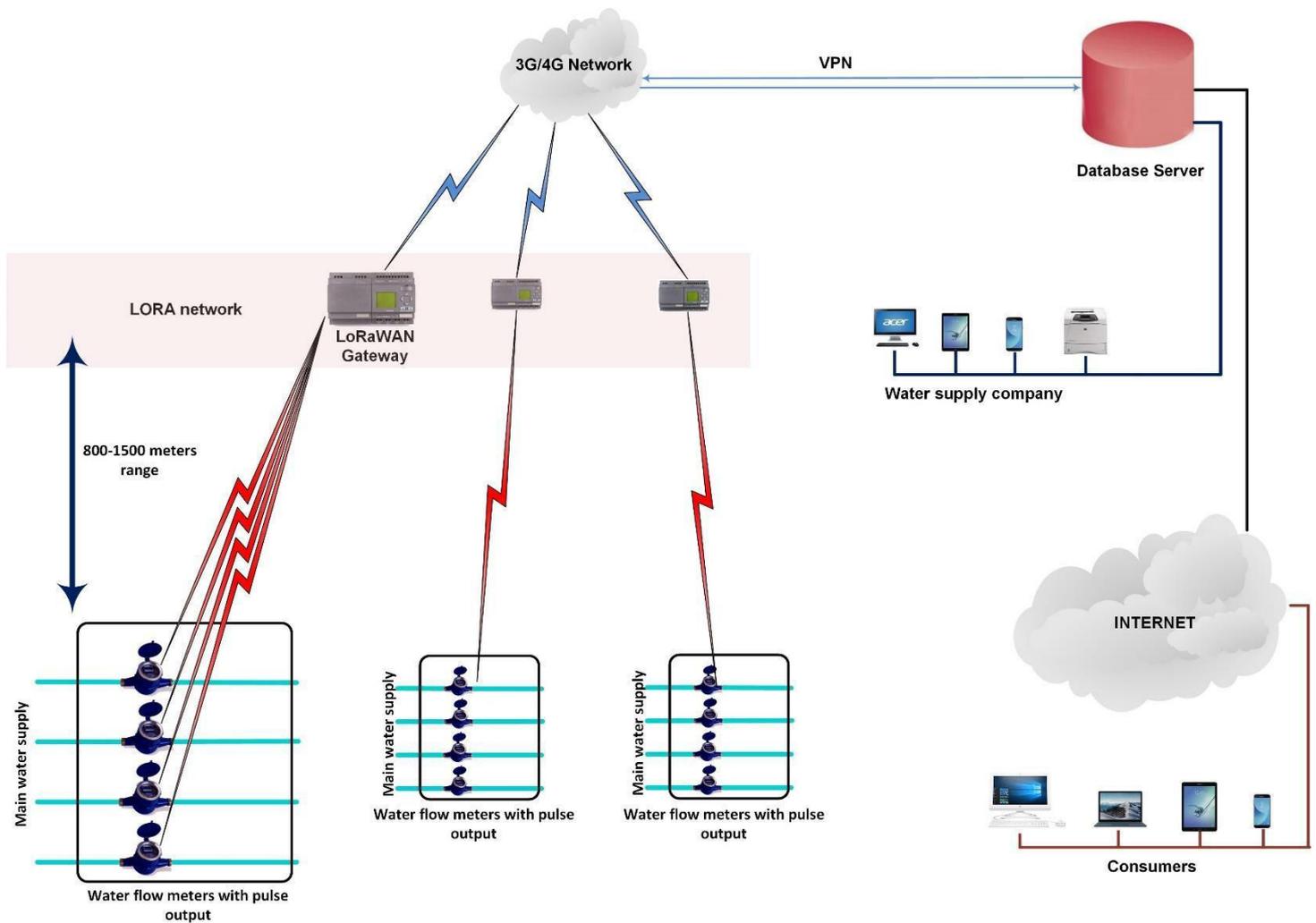
A/A	Description	A/A	Description
1	Rotor housing	7	Magnetic Sensor
2	Sand Filter	8	Plastic cover
3	Body made of brass	9	Lithium Battery
4	Rotor	10	Valve Control
5	Plastic frame	11	Wireless electronic unit
6	Meter	12	Spherical Valve

## Communication

The radio unit of the new water meter offers communication through the LoraWAN wireless network. The LoraWAN network offers:

- High energy savings (battery life 5-10 years depending on usage)
- wide range of communications (800-1500 meters in urban environment)
- daily sending and receiving data (consumption data, leakage notification, etc.)
- ability to send commands (valve management)

The diagram below shows the topology diagram of the network:

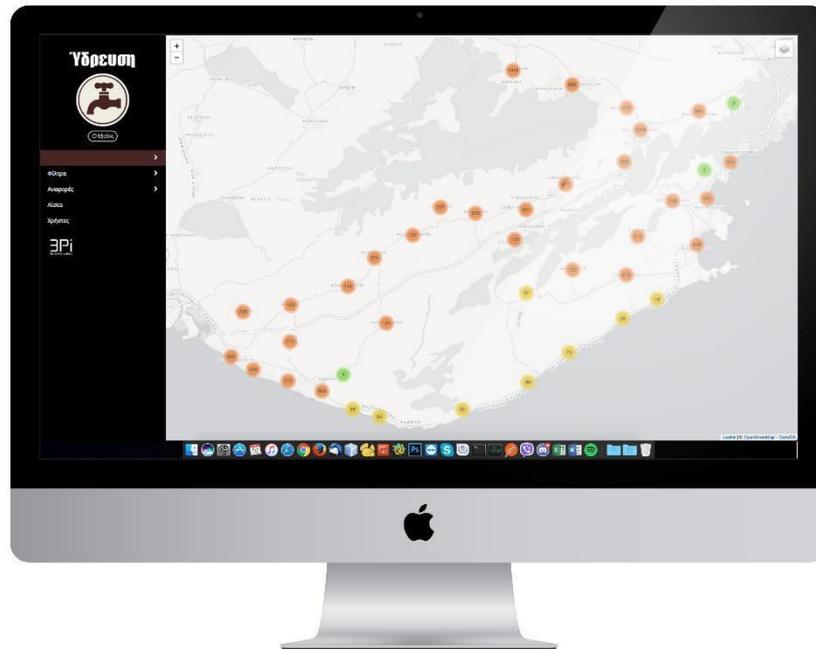


## Management Software (Water Supply)

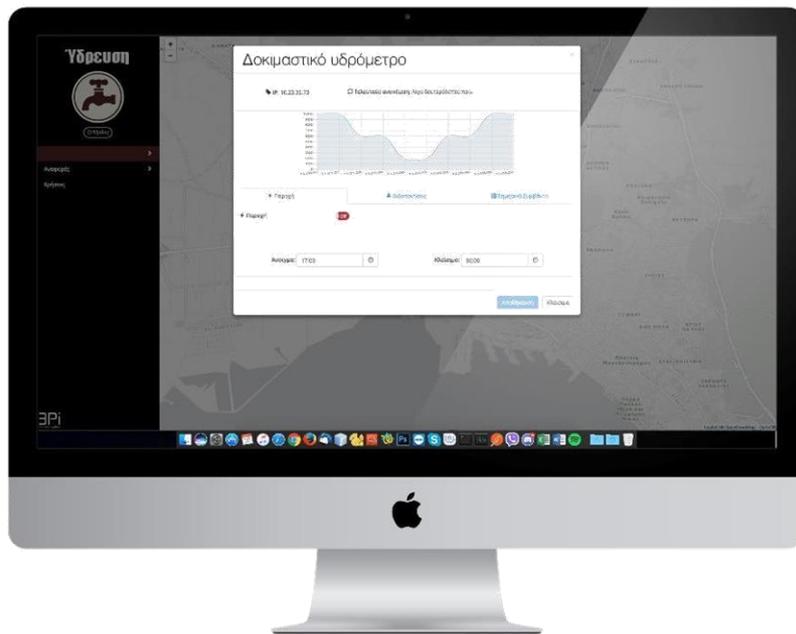
For proper and complete operation of electronic meters, software has been created that collects and processes the data and the network of meters.

Some of the primary features of the software are:

- Web browser access
- Map display software capable of displaying different layers of information



- Software for displaying information in English
- User Management system, with customizable access levels
- History of entries to the system and recording of all actions performed on it
- Graphical interface with menu options
- Linking meters with an existing system via a software bridge
- Measurement at fixed intervals, on demand
- Remote device management through the central software
- Multiple Event Alarms (in case of leakage, intervention, reverse flow events, etc)
- Segmenting and grouping stations by region, supply pipeline, type etc.



- Create consumption-time graphs
- Geographic consumption statistics
- Search for meters on the map based on gauge code, consumer information, etc.
- Online communication with mobile phones of network maintenance technicians

## Water Company Mobile App

Beyond the host software there will be mobile phone software (Android) for inventory and maintenance of hydrometers with the following capabilities:

- recording of new water meters with geographic identification, photographing and reporting of observations
- failure logging
- automatically find the meter for maintenance via GPS
- take pictures and record technician comments

## Consumer Software (web and mobile app)

The consumer will be able to monitor, via an application on a computer or mobile phone, important information about their usage:

- consumption statistics
- consumption history (maximum, minimum)
- leakage notification
- Possibility to manage the solenoid valve(allowed by Provider)
- display consumption graphs



## BENEFITS FOR THE WATER SUPPLY COMPANY

- Physical visit and recording of measurements are not required
- Elimination of inaccessible meters
- Remotely control equipment
- Managing the shut off valve
- Automation of the water-monitoring process, freeing up staff to utilized in more productive ways
- Weekly updates of each customer's gas usage, allowing for more regular billing
- Eliminate human error from water usage recording process
- Ability to connect other sensors (pressure, temperature, pH etc.)
- Immediate notification of incidents (malfunction, tampering, etc)
- Decrease errors in accounts, re-checks, complaints
- Predictability and consumption patterns per subscriber, group subscribers. Access to a wide-range of statistics to guide business decisions
- Full history and consumption profile
- Ability to analyze data in a Geographic Information System (GIS)

## BENEFITS FOR THE CONSUMER

- View statistics and historical consumption data
- Email / SMS alerts for leaks, off-peak consumption, etc.
- Full view of consumption with detailed bills and graphs (per hour / day / week, etc.)
- Total consumer information for annual water use
- Subscriber information (telephone, Internet, etc.), value added services



