

REMOTE READING SYSTEM FOR WATER METERS EQUIPPED WITH LoRaWAN™ INTERFACE RADIO MODULE FOR FIXED TYPE INFRASTRUCTURE

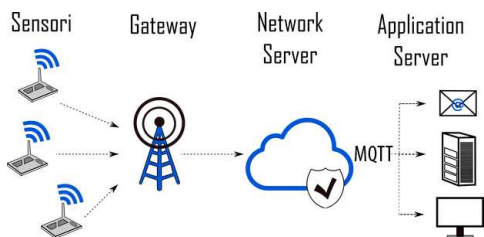


FIXED TYPE RADIO SYSTEM

- Transmission of data from various meters installed in manholes, niches, flats, etc.
- Radio communication interface with LoRa modulation on 868Mhz free frequency and LoRaWAN transmission protocol
- Dual communication
- Fixed system of collection and transmission via Gateway/Concentrator of data coming from the devices at regular intervals to the Network Server with dual and multicast communication
- Transmission distance about 15 km in open field (2-3 km in high populated towns), at the location of the gateway (distances may have variations in excess or defect due to natural obstacles from environmental conditions and electromagnetic pollution)
- Transmission data package including:
 - Instant consumption data
 - Historic reading of consumption per hour of previous 24 hours period
 - Low Battery
 - Possible alarms (general, fraud, reverse flow, low battery level,)
 - Leakage (loss report)
- The same radio module can be used for Walk By / Drive By readings via LoRa protocol transmission without configurations in the field

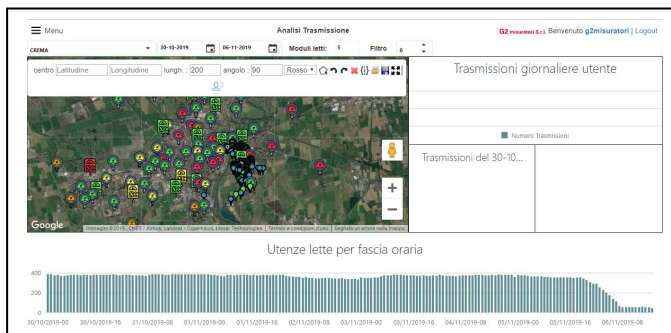
NETWORK SERVER FOR FIXED TYPE INFRASTRUCTURE

- Control layers, authentication, and quality of data received in the LoRaWAN network
- Receiving and storing the data transmitted by each device and elimination of unwanted or duplicate packets
- Dual and multicast communication to all covered devices
- Battery life optimized via Adaptive Data Rate (ADR) mechanism that modulates the output RF power of each individual node
- Through the application of the data management platform each data can be monitored and retrieved constantly and periodically via MQTT communication protocol



DATA MANAGEMENT PLATFORM FOR FIXED TYPE INFRASTRUCTURE

- Web interface accessible from any consultation and export of data collected during reading internet location with monitoring, shifts, analysis.
- Data synchronizing between back office operators and operations personnel on the field. Processing of reading shifts, user profiles, data reference
- Map representation of where the meter is located
- Analysis tools and statistical charts
- Import/export tools compatible with the BILLING CRM format
- Network analysis of the devices installed in the field
- It also supports infrastructure of fixed type with LoRaWAN communication protocol
- Cloud data storage at multiple levels of data security and data privacy
- Scheduled back up storage



L'Azienda si riserva di apportare modifiche ai dati tecnici e alle illustrazioni dei prodotti – 11/19