



Boost your control



LPG tank managing solution



SPIN-System[®]

The 2nd step to full tank control



Replaces traditional tank level meters and adds easy remote monitoring of all key tank parameters.

LPG level, filling valve status, ambient temperature and instrumentation pit flooding, always under your control.

SPINLevel® constantly **monitors tank parameters** and transmit collected data to the server through GSM or NB IoT network.

Easy to install without any external connection, completely self-powered with more than **5 YEARS of expected lifespan**, includes replaceable batteries to extend the operating life time.

End-users can monitor their LPG level in real-time through the mobile APP that can also notify them for marketing opportunities (special discounts, customized promotions, etc).

The SPINLevel® system is designed and full compliant with the most recent European Directives like ATEX (2014/34/EU); RED (2014/53/EU) and EMC (2014/30/EU).

functional characteristics

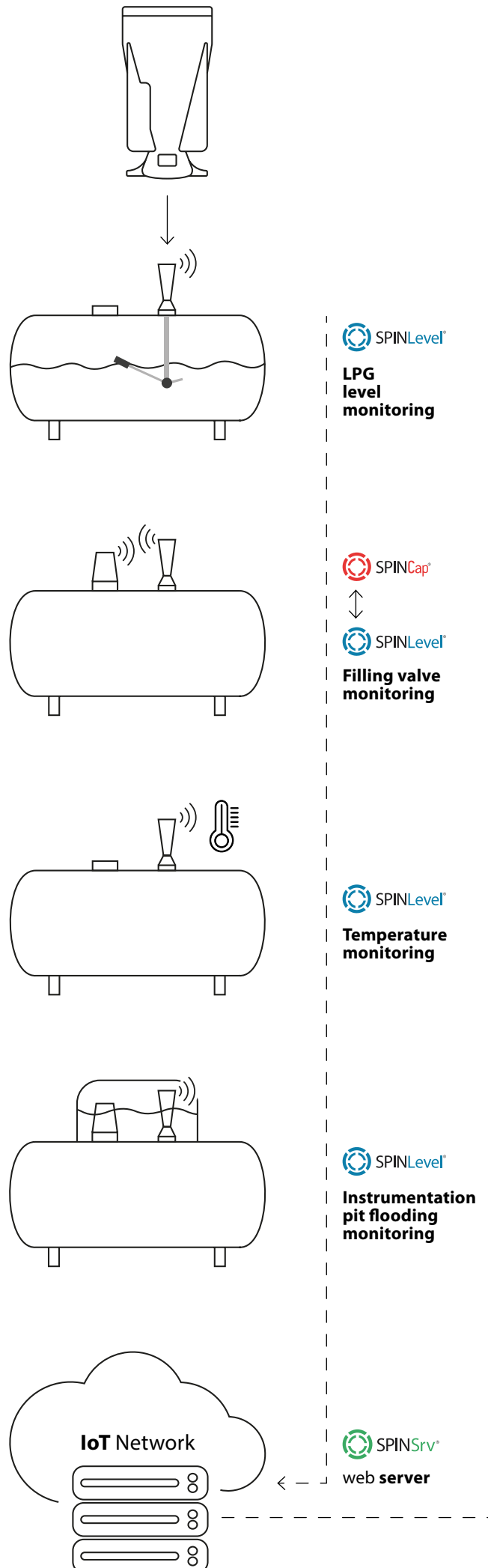
SPINLevel® is a unique device that is easily installed on any float gauge in place of a traditional tank level dial gauge, but it does much more!

It includes a **smart system to remotely monitor** all critical parameters of LPG tanks, so each installed tank is finally under your complete control.

The collected data are transmitted to the server with **GSM connection**, and can be processed and analyzed through the web server interface.

The system is **battery powered**, so it doesn't require any cable connection. It records the measured data into its internal memory and periodically transmit to the server. In case some alarm condition is detected (i.e. unauthorized filling, spill event, etc) the system immediately transmit the data.

SPINLevel® can be paired with SPINCap® for having total control of the tank. Through the **BLE communication** the filling valve status is now continuously monitored.



Technical features

- MCU ARM Cortex M4 with integrated Crypto Engine
- BLE 4.1 with OTA functionality for remote updates
- Flash memory for local storage of events
- Real Time Clock with a maximum error of less than 5 minutes/year
- Autonomy > 5 years (depends on use and environmental conditions)
- Completely self-powered (replaceable batteries)
- Database for tank monitoring, events storage, system control
- Mobile APP (Android 6.0 or higher) for end-users
- Remote telemetry through GSM or NB IoT connection (more protocol will be developed in a future upgrade)
- Encrypted data transmission
- BLE communication with SPINCap on filling valve

Other features

- ATEX Mark: II 1 G Ex ia IIA T4 Ga (up to Zone 0)
- Degree of protection: IP65/IP68
- Operating temperature: -20°C +60°C
- Dimensions: 50(d) x 130(h) mm
- Weight: 100 gr approx

Server characteristics

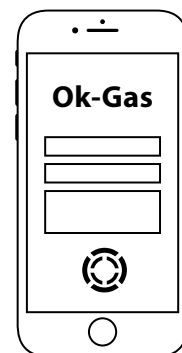
The SPINLevel® **web server** allows monitoring of the events generated by each SPINLevel® on the field. The events are stored in an **SQL database** and the SPINLevel® web server is built with RoR (Ruby on Rails) version 5.x.

The typical events recorded are:

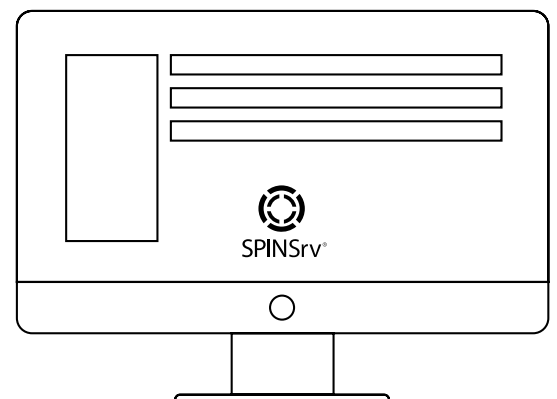
- periodic tank level
- tank fill event
- tank empty alarm
- tank spill alarm
- instrumentation pit flooding alarm
- SPINCap breaking attempt alarm
- SPINCap status change event (open, close, battery level..)
- ambient temperature

The system is set up to extend the type of events recorded (i.e. real time operations and data from additional sensors*) and to install plugins that allow to **make statistics** on the data gathered.

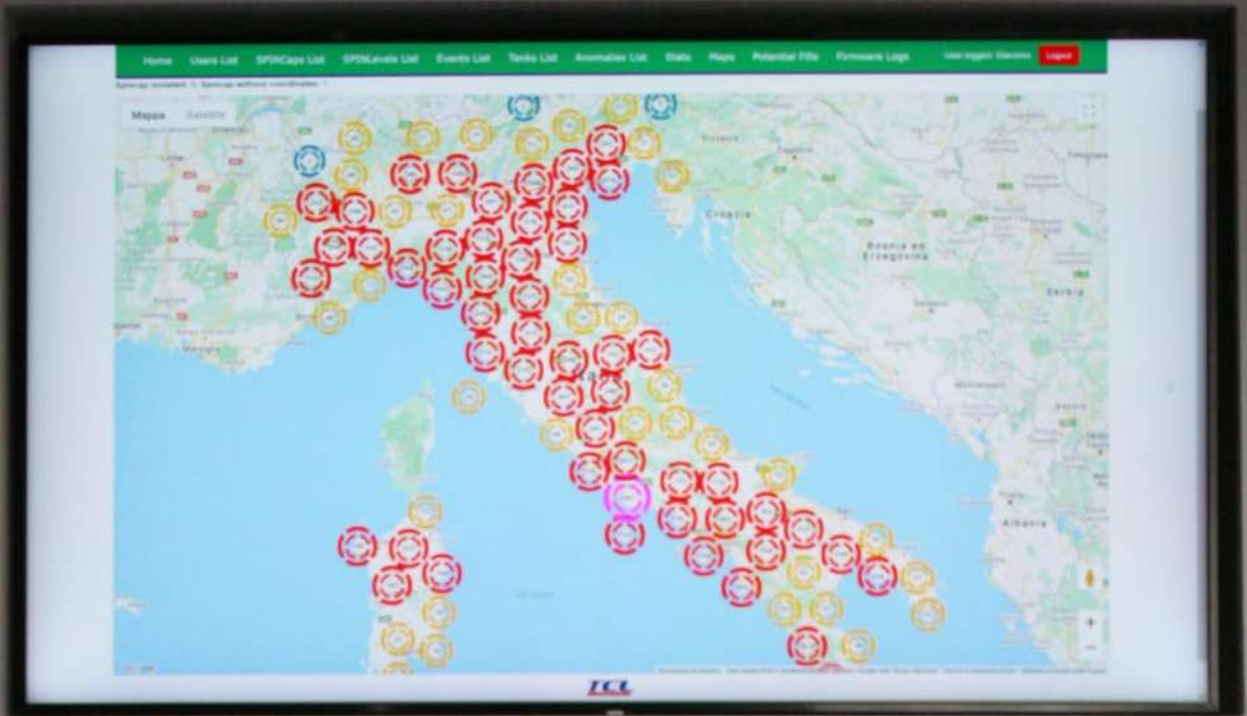
APP END USER



Portal data aggregation
monitoring and analysis tank parameters



(*) With previous installation of additional sensors / devices.



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