SOFREL OpenSensor Low Power

REMOTE READING OF FLOW METERS, DISTRICT METERING AND QUALITY MEASUREMENT

USES & BENEFITS

- **Remote reading of "major consumer" meters**
- **Remote reading of interconnection meters**
- **District metering**
- **Management and remote powering of water quality sensors**

PRODUCT FEATURES

- Enhanced IP68 waterproof rating
- Battery powered
- Integrated high performance 2G/4G M2M internal antenna and versatile (external) antenna port activated
- On-site access to the SIM card and battery
- RS485 link to directly read flow meter or Modbus sensor registers
- Remote powering of Modbus sensors up to 0.8w cumulated
- 3-year manufacturer guarantee

EASE OF USE

- On-site communication and exploitation via Bluetooth link
- Open to supervisory control software and third-party applications of major water operators
- Specific communication protocol guaranteeing data availability
- Simplified data exploitation via the SOFREL WEB LS IoT platform

MAIN FEATURES:

2G/4G M2M		IP68	up to 10 years	3 year	
Communication	Simplicity	Waterproof	Battery life	Guarantee	Antenna FLEX

LACROIX

Technical and functional characteristics

GENERAL FEATURES:

Mechanical design	Screwless opening system for easy access to the SIM card and battery
Dimensions	H 261 x W 155 mm
Weight	1,1 kg
Operating temperature	-20°c to +55°c
Storage temperature	-25°c to +70°c
Watertightness	Enhanced IP68 certification (30 days under 4 meters of water)
Power supply	Powered by an internal lithium battery
Connector types	Military-grade hermetic connector

DATA LOGGER INPUTS:

RS485	RS-485 Modbus RTU link Periodic acquisition of 14 registers spread over 8 inputs Remote powering of 5V and 12V equipment up to 0.8W (or inhibited at 0 V) Transmission speed from 1200 Bauds to 19200 Bauds Detection of sensor liaison faults
DI (Digital Input)	2 digital inputs for standard metering, signalling, overflow sensors and rain gauge Maximum frequency: 250 Hz - Minimum pulse time: 2 ms - Maximum polarisation: 3.3 V/ Current: 15μA
AI (Analog Input)	1 analog input for SOFREL pressure sensors or remote powering of third-party sensors Remote powering of third-party sensors via 4-20 mA loop, 12 V or 20 V - Sampler control

COMMUNICATION:

2G/4G M2M quad-band modem	4G LTE-M: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 4G NB-IoT: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 Quad-band GSM/GPRS/EDGE (850 MHz, 900 MHz, 1800 MHz, 1900 MHz)
Supported SIM cards	Standard SIM cards (Nano and Micro SIM cards can be installed via adapter)
Versatile antenna (optional)	Cable of 4 or 8 meters, IP68-certified external antenna
Automatic data logger synchronisation	Daily synchronisation of the LS via the SCADA
Communication with 1 or 2 PCs	Periodic, programmed or event-based
Inter-sites communication to S500, S4W, YDRIX or AS	Periodic or event-driven (change of DI status or threshold exceedance)
Alert transmitted to mobile via SMS*	Upon change in DI state, exceeded threshold, sensor fault...

CONFIGURATION AND COMMISSIONING:

Bluetooth	Data logger configuration via Bluetooth link
Assistance with commissioning	4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal
Assistance with maintenance	Remaining battery life calculator

ARCHIVING:

Local archiving capacity	100,000 data points
Primary and secondary archiving of DI, AI and US probe data	Event-based automatic changing of the archiving period (e.g. overflow)

PROCESSING:

Calculation	District metering: Average flows - Night flows - Daily volumes - Daily minimum and maximum flows Self-monitoring: Flow based on height measured - Daily volume linked to flow - Number of daily overflows Includes two conversion tables for flow calculations

CERTIFICATIONS :

CE Certification	2014/53/UE "Radio equipment" 2014/30/UE "Electromagnetic compatibility" 2014/35/UE "Low voltage"
Enhanced IP68 certification	Extended immersion test (30 days under 4 meters of water) performed by an independent laboratory

STANDARD BATTERY LIFE:

2 counts and 1 pressure measurement every 15 minutes,	10 years (Daily communication with the SCADA)
Height measurement every 5 minutes	2,5 years (Daily communication with the SCADA)
Height measurement every 15 minutes	4 years (Daily communication with the SCADA)

* Depending on the activation of the telecom operator

LACROIX - Environment
2, rue du Plessis
35770 Vern-sur-Seiche · France

Tel: +33 (0)2 99 04 89 00
info.environment@lacroix.group
www. lacroix-environment.com