

SOFREL LT42

PERMANENT DIAGNOSIS AND QUALITY MONITORING



USES AND BENEFITS

• Regulatory self-monitoring

- Overflows detection in Combined Services Overflows
- Daily calculation of the number of overflows and their duration
- Discharge volumes and flows monitoring
- Autonomous sampler controls

• Continuous diagnostics

- Ensure appropriate network sizing
- Anticipate load development
- Measure inputs from adjacent municipalities
- Monitor industrial discharge into the system
- Detect quantity of infiltration water

• Rain gauge

- Calculate rainfall intensity
- Compare rain gauge indications with the network operation

• Water quality, Physico-chemical measurements

- Quality sensors management (conductivity, pH, Redox, ORP, etc.)

PRODUCT FEATURE

- Enhanced IP68 waterproof rating
- Battery powered or external power supply*: (Photovoltaic cell, mains power, micro-turbine or battery kit)
- Integrated high performance 2G/3G antenna
- FLEX version for installing an antenna outside the manhole in case of a weak radio signal
- Automatic reception testing for best 2G/3G operator
- Access to the SIM card and battery on site
- 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

*Only flex version



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 (100 days under 1 meter of water)
Power supply	Powered by an internal lithium battery or by an external source* (photovoltaic cell, main power, micro turbine, or battery kit - Input voltage : 5-30VDC - Required power : 3W – Inrush current : 3A)
Connector types	Military-grade hermetic connector

DATA LOGGER INPUTS:

DI (Digital Inputs)	4 Digital inputs for standard metering, signalling and overflow sensors Maximum frequency: 250 Hz Minimum pulse time: 2 ms Maximum polarisation voltage: 3.3 V Maximum polarisation current: 15 µA
AI (Analog Inputs)	2 analog inputs 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 Controlling a sampler

COMMUNICATION:

2G/3G quad-band chipset	Quad-band GSM/GPRS/EDGE (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) Hexa-band UMTS WCDMA FDD (800 MHz (B19), 850 MHz (B5/B6), 900 MHz (B8), 1900 MHz (B2), 2100 MHz (B1))
Supported SIM cards	Mini SIM cards (Nano and Micro SIM cards can be inserted using an adapter)
Versatile antenna (FLEX version)	4-meters, IP68-certified external antenna
Data logger synchronisation	Daily synchronisation of the LT via the SCADA
Communication with 1 or 2 PCs	Periodic, programmed or event-based
Inter-sites communication to S500, S4W or AS Alert transmitted to mobile via SMS	Periodic or event-driven (change of DI status or threshold exceedance) Upon change in DI state, exceeded threshold, sensor fault...

CONFIGURATION AND COMMISSIONING:

Bluetooth	Data logger configuration via Bluetooth link
Assistance with commissioning	3G and 2G reception level measurement Best 3G and 2G operator test LEDs for visual diagnosis of operation and 3G/2G signal
Assistance with maintenance	Remaining battery life calculator

ARCHIVING:

Local archiving capacity	50,000 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:

Self-monitoring	Includes two conversion tables for flow calculations Flow calculation based on height measured via an analog input (AI) Daily calculation of volume linked to flow Calculation of the number of daily overflows
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CERTIFICATIONS:

CE Certification	2014/53/UE	"Radio equipment"
	2014/30/UE	"Electromagnetic compatibility"
	2014/35/UE	"Low voltage"
Enhanced IP68 certification	Extended immersion test (100 days under 1 meter of water) performed by an independent laboratory	

STANDARD BATTERY LIFE:

Height measurement every 5 minutes	6 years (Daily communication with the SCADA)
Height measurement every 15 minutes	10 years (Daily communication with the SCADA)

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