



DATA LOGGERS RANGE SOFREL LX

SOLUTIONS FOR WATER NETWORK MONITORING





CONNECTED TECHNOLOGIES FOR A **SMARTER** ENVIRONMENT

DATA LOGGERS - SOFREL LX

MAKING WATER NETWORKS
INTELLIGENT AND ABLE TO COMMUNICATE

The SOFREL LX range is composed of Data Loggers specifically designed for water networks. Waterproof, offering autonomy of up to ten years thanks to their high-capacity lithium battery, and equipped with a high-performance 2G/3G antenna, LX Data Loggers are compatible with the instrumentation present in water networks.

Very simple to implement and easy to operate thanks to their SOFREL PCWin2 and WEB LS centralisation software programs, LX Data Loggers are also open to all SCADA central stations on the market and third-party applications of the major water operators.

With functions entirely dedicated to water, the SOFREL LS range offers a complete solution for remote reading, district metering or dynamic management of pressure levels in drinking water distribution networks. The SOFREL LT range enables contract operators to meet their self-monitoring obligations and to establish continuous diagnostics for their waste water network.

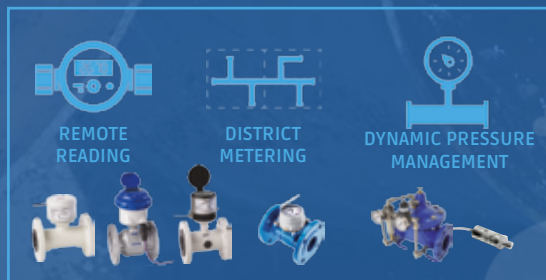
An extended range to cover specific water applications	Page 4
Data transmission and operation	Page 5
Robust and durable design suitable for a demanding environment	Page 6
High performance data acquisition and calculation	Page 7
Simplified implementation	Page 8
Software for easily centralising and processing data	Page 9
Remote reading of meters and flowmeters solutions	Page 11
District metering and leak detection solutions	Page 12
Dynamic pressure management solutions	Page 13
Self-monitoring and continuous diagnostics solutions	Page 14
Rain gauge and water quality solutions	Page 15



LACROIX Sofrel
2, rue du Plessis
35770 Vern sur Seiche
Tel.: +33 (0)2 99 04 89 00
E-mail: info@lacroix-sofrel.com
Website: www.lacroix-sofrel.com
LS website: www.ls-leak-detection.com

AN EXTENDED RANGE TO COVER YOUR SECTOR-SPECIFIC APPLICATIONS, INTERFACING WITH ALL NETWORK INSTRUMENTATION

INSTALLATION AND MAINTENANCE



DRINKING WATER NETWORK



WASTE WATER NETWORK



IMPROVED PERFORMANCE IN DATA TRANSMISSION AND OPERATION

NETWORK CONTROL



Data centralisation



SOFREL solutions

Network supervision
Data processing

PCWin-2

LX management
Data processing

WEB LS

OPC DA / UA gateways

SOFREL OPC

Industrial supervisors

Third-party supervision

SCADA

OPERATIONAL PERFORMANCE



Hypervisor

SQL
Webservices
FTP



Analyses

SMART CITIES & BIG DATA



ROBUST AND DURABLE DESIGN

SUITABLE FOR A DEMANDING ENVIRONMENT



THREE-YEAR GUARANTEE

Excellent electronic and mechanical design

- LACROIX Sofrel electronic and telecom know-how
- Reinforced IP68 certification:
 - Prolonged immersion tests (100 days in one metre of water)
 - Military connectivity
 - Screwless locking system ensuring watertightness after closure of the case
- High-performance 2G/3G antenna (designed to work underground)



Consumption optimisation

- Optimised electronics and operating mode to save energy
- Optimised power supply and control of 4-20mA sensors
- High-capacity battery: autonomy up to 10 years

NEW: OPT DIRECTLY FOR THE **FLEX VERSION** AND DECIDE ON-SITE TO USE THE BUILT-IN ANTENNA OR CONNECT AN **EXTERNAL ANTENNA**



HIGH-PERFORMANCE DATA ACQUISITION AND CALCULATION

SUPPLYING WATER OPERATORS

WITH INTELLIGENT AND IMMEDIATELY EXPLOITABLE DATA

Embedded treatment functions

- Pre-calculation of monitoring indicators:
 - District metering: average flow – nighttime flow daily balance
 - Rain gauge: rain intensity
 - Self-monitoring: daily volume, flow, number and duration of overflows
- Definition of threshold values for real-time network monitoring:
 - Upstream or downstream pipe breakage
 - Abnormal pressure level identification
 - Self-monitoring: overflow alert



Dynamic control of sensors

- Primary and secondary archiving of each AI...
 - According to consumption constraints of energy-intensive sensors
 - According to measurement needs, adapted in line with:
 - The flow conditions (dry weather, wet weather, crisis periods)
 - The analysis time slot (night/day)
- ... to optimise Data Logger operation:
 - Consumption
 - Appropriate measurement, in response to self-monitoring
 - Communication costs by controlling the volume of data transmitted to the supervision system

SIMPLIFIED IMPLEMENTATION TO SAVE TIME AND INCREASE EFFICIENCY

SOFTTOOLS, fast and
intuitive configuration
of Data Loggers, **locally**

WEB LS: Remote
Data Logger **reconfiguration**



REMOTE OPERATION OF YOUR NETWORK

SOFREL PCWin2 : NETWORK SUPERVISION

For **EASILY** centralising, viewing and processing your data

- Curve charts, Excel reports, animated graphical mimic diagrams
- Centralised alarm reporting and stand-by duty management
- Automatic calculations (average flows, balances, formulas)
- Openness to external systems via a SQL database



HTML5 USER INTERFACE FOR USE
ON PC, TABLET, SMARTPHONE

REMOTE OPERATION OF YOUR NETWORK

SOFREL WEB LS, IoT PLATFORM FOR DATA MANAGEMENT AND USE

Data hosting on secure cloud server

- Industrial platform for data centralisation

- Data Logger management:

- Remote configuration management
- GPS geolocalisation of devices

- Data processing:

- HTML5 user interface for use on PC, tablet and smartphone
- Data Logger network mapping
- Curve charts
- Excel reports

- Openness to third-party applications:

- Web services
- FTP export



INTRODUCTORY OFFER
 6 MONTHS FREE!

TRY SOFREL WEB LS NOW AND ENJOY ALL
THE POSSIBILITIES OFFERED BY THE APPLICATION

SECTOR-SPECIFIC APPLICATIONS – DRINKING WATER: REMOTE READING OF METERS AND ELECTROMAGNETIC FLOWMETERS

MAJOR CONSUMER CUSTOMERS

- Monitor consumption levels
- Detect consumption anomalies
- Assist with billing

INTERCONNECTION METERS

- Monitor transfers between two networks
- Assist with billing

Model	Key features	Intended use
 LS10	1 DI	Simple metering solution
 LS42	4 DI 2 AI	Ability to combine several meter readings and pressure measurements
 LS-FLOW	1 RS485 1 AI	Serial link communication with flow meters

SECTOR-SPECIFIC APPLICATIONS – DRINKING WATER:

DISTRICT METERING OF DISTRIBUTION NETWORKS AND LEAK DETECTION

- Detect leaking sectors
- Improve network output
- Monitor flow and pressure levels
- Alert immediately in the event of upstream or downstream pipe breakage

Model	Key features	Intended use
 LS42	4 DI 2 AI	Ability to combine several meter readings and pressure measurements
 LS-Flow	1 RS485 1 AI	Serial link communication with flow meters

SECTOR-SPECIFIC APPLICATIONS – DRINKING WATER: DYNAMIC PRESSURE MANAGEMENT

- Ensure correct operation of reducers, stabilisers and regulators
- Measure service quality level
- Optimise network pressure according to a time slot, flow rate or pressure level
- Vary and balance reservoir levels
- Perform sanitary purges
- Isolate part of the network

Model	Key features	Intended use
 LS-P	Measurement of 1 or 2 pressure levels	Simple solution for pressure monitoring
 LS-V	4 DI 2 AI 1 solenoid valve	Control a dual-stage regulator valve

SECTOR-SPECIFIC APPLICATIONS – WASTE WATER

SELF-MONITORING AND CONTINUOUS DIAGNOSTICS

REGULATORY SELF-MONITORING

- Detect overflows in combined sewer overflows
- Perform a daily calculation of the number of overflows and their duration
- Monitor flows and discharge volumes
- Take effluent samples to estimate the pollution load

CONTINUOUS DIAGNOSTICS

- Ensure correct network sizing
- Anticipate load development
- Measure inputs from adjacent municipalities
- Better identify problems of industrial discharge into the network
- Detect inputs of infiltration water

Model	Key features	Intended use
 LT42	4 DI 2 AI	Detect overflows Measure heights via external sensors Measure speed Calculate flows and effluent volumes Control an autonomous sampler
 LT-US	4 DI 2 AI 1 US sensor Also available in ATEX version	Detect overflows Measure heights via the internal US sensor Measure speed Calculate flows and effluent volumes Control an autonomous sampler

SECTOR-SPECIFIC APPLICATIONS – WASTE WATER: RAIN GAUGE AND WATER QUALITY

RAIN GAUGE

- Quantify rain intensity locally
- Compare rain gauge indications with network operation

Model	Key features	Intended use
 LT42	4 DI 2 AI	Rain intensity calculation

WATER QUALITY, PHYSICO-CHEMICAL MEASUREMENTS

- Measure water quality online
- Control autonomous samplers to estimate the pollution load

Model	Key features	Intended use
 LT42	4 DI 2 AI	Sampler control Physico-chemical Sensor management (conductivity, pH, Redox, ORP, etc.)

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LACROIX Sofrel
2, rue du Plessis
35770 Vern sur Seiche
Tel.: +33 (0)2 99 04 89 00
E-mail: info@lacroix-sofrel.com
Website: www.lacroix-sofrel.com
LS website: www.ls-leak-detection.com