

SOFREL LS RANGE

IoT DATA LOGGERS FOR MONITORING DRINKING WATER NETWORKS



LS 10



LS 42



LS-Flow



LS-V



LS-P

Remote reading and district metering

Pressure monitoring and dynamic management

FUNCTIONAL CHARACTERISTICS

| COMMUNICATION | LS10 | LS42 | LS-Flow | LS-P | LS-V |
|--|------------|-------|---------|-------|-------|
| DATA TRANSMISSION: | | | | | |
| - Sending of data to 1 or 2 SCADA Central Stations | SMS | IP | SMS | IP | IP |
| - Communication medium | 2G/3G | 2G/3G | 2G/3G | 2G/3G | 2G/3G |
| - Versatile antenna management (FLEX version) | ✓ | ✓ | ✓ | ✓ | ✓ |
| - Temporary exceptions | ✓ | ✓ | ✓ | ✓ | ✓ |
| ALERT: | | | | | |
| - Send SMS alerts to mobiles | ✓ | ✓ | ✓ | ✓ | ✓ |
| - Instant detection via a specific DI (intrusion on site) | ✓ | ✓ | ✓ | ✓ | ✓ |
| - Sensor fault detection | ✓ | ✓ | ✓ | ✓ | ✓ |
| CENTRALISATION: | | | | | |
| - SOFREL WEB LS (cloud hosting of data sent by LX data loggers) | | ✓ | | ✓ | ✓ |
| - SOFREL PCwin2 (SCADA Central Station for SOFREL devices) | ✓ | ✓ | ✓ | ✓ | ✓ |
| - Open to third-party applications (Web services and FTP) | | ✓ | ✓ | ✓ | ✓ |
| - Analysis and exploitation of data on PC, tablet or smartphone | ✓ | ✓ | ✓ | ✓ | ✓ |
| - Open to other SCADA systems | | | | | |
| | Contact us | | | | |
| INTER-SITES: | | | | | |
| - Periodic or event-driven communications (change of DI status or threshold exceedance) to a S4W, S500 or AS for remote site control | | ✓ | ✓ | ✓ | ✓ |
| I/O MANAGEMENT | | | | | |
| NUMBER OF INPUTS / OUTPUTS: | | | | | |
| - Digital Inputs (DI) | 1 | 4 | | | 4 |
| - Analogue Inputs (AI) | | 2 | 1 | 2 | 2 |
| - RS485 series port | | | 1 | | |
| - Solenoid valve | | | | | 1 |
| TYPES OF INPUTS / OUTPUTS: | | | | | |
| - Pulses for metering | ✓ | ✓ | | | ✓ |
| - Modbus for metering | | | ✓ | | |
| - Dry contact | ✓ | ✓ | | | ✓ |
| - SOFREL CPR / CNPR Pressure sensors | | ✓ | ✓ | ✓ | ✓ |
| - Remote power feeding to third-party sensors | | ✓ | ✓ | | ✓ |
| TREATMENT | | | | | |
| CALCULATIONS: | | | | | |
| - Daily district metering balance (night flow, max flow, min flow and daily volume) | ✓ | ✓ | ✓ | | ✓ |
| ARCHIVING: | | | | | |
| - Daily balances and archiving of meters and flows | ✓ | ✓ | ✓ | | ✓ |
| WEEKLY SCHEDULE: | | | | | |
| - Programming the control of a pressure regulation valve according to a weekly schedule | | | | | ✓ |

PHYSICAL CHARACTERISTICS:

| | |
|-------------------------|---|
| General characteristics | Screwless opening system for easy access by the user 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 | Reinforced IP68 certification (100 days under 1 meter of water) obtained from an external laboratory |
| Power supply | Power supply by an internal lithium battery: - Standard battery: up to 5 years battery life, high capacity battery: up to 10 years battery life Power supply by an external source (only FLEX version)*: - Photovoltaic cell, mains power, micro-turbine or battery kit - Input voltage : 5-30VDC - Required power : 3W – Inrush current : 3A Military-grade waterproof connectors |
| Connector types | |

CONNECTIONS:

| | |
|---------------------|---|
| DI (Digital Inputs) | Digital input for standard and bidirectional metering and signalling Maximum frequency: 250 Hz Minimum pulse time: 2 ms Polarisation voltage: 3.3V max Polarisation current: 15µA max |
| AI (Analog Inputs) | 2 analogue inputs for measuring pressure or level Remote power feeding to third-party sensors via 4-20mA loop in 12V or 20V |
| RS485 | Modbus RTU Interface for automatic communication with Aquamaster (ABB), MAG8000 (SIEMENS), Waterflux (KROHNE) and Octave (ARAD) flowmeters |
| Output | Specific interface for operating SOFREL solenoid valve |

COMMUNICATIONS:

| | |
|----------------------------------|---|
| Quadriband 2G/3G modem | 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)) |
| SIM cards supported | Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) |
| Versatile antenna (FLEX version) | External, 4-meters-long antenna, IP68 certified |
| Configuration of the Data Logger | Daily configuration of the LS via SCADA |
| Communication to 1 or 2 PCs | Periodic, programmed or event-based |

CONFIGURATION AND COMMISSIONING:

| | |
|-------------------------------|---|
| Bluetooth | Data logger configuration via Bluetooth connection |
| Assistance with commissioning | 3G and 2G signal reception measurement 3G and 2G best operator test LEDs for visual diagnosis of 2G and 3G operation and signal |
| Assistance with maintenance | Calculation of remaining battery life |

LOCAL DATA ARCHIVING:

| | |
|----------------------|--------------------|
| Archiving capacities | 50,000 data points |
|----------------------|--------------------|

* Not available for LS-P

