

# SOFREL LS-V

## PRESSURE MANAGEMENT AND CONTROL



### USES AND BENEFITS

- **Pressure monitoring and control**

- Monitor reducers, stabilisers and regulators
- Service quality level measurement
- Two-stage control valve operation
- System pressure optimisation according to a time slot, a flow rate or a pressure level
- Variation of the reservoir levels in equilibrium
- Sanitation purge execution
- Network part isolation

### 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
- Automatic reception testing for best 2G/3G operator
- Access to the SIM card and battery on site
- Pressure control valve operation
- 3-year manufacturer guarantee

*\* Only flex version*

### 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



### 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 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

### DATA LOGGER OUTPUTS:

Solenoid valve	Latching solenoid valve 3 wires 12 V - 3-way IP68 watertightness Service pressure: 0 – 16 bar Orifice: 2.2 mm
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### 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 LS via the SCADA
Communication with 1 or 2 PCs	Periodic, programmed or event-based
Inter-sites communication to S500, S4W 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	
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 Remaining battery life calculator
Assistance with maintenance	

### WEEKLY SCHEDULE MANAGEMENT:

Pressure changeover:	Up to 4 time slots for each day for normal pressure state Programming 1 to 5 thresholds and time period of low pressure holding time between each time slot
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### ARCHIVING:

Local archiving capacity	50,000 data points
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### PROCESSING:

district metering	Calculation of average flows Calculation of night flows Calculation of daily volumes, daily minimum and maximum flow
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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:

4 solenoid valve controls per day + 1 daily transmission to the SCADA	8 years
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\* Only flex version