

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 |
|----------------|--|

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 |
|----------------------|--|

ARCHIVING:

| | |
|--------------------------|--------------------|
| Local archiving capacity | 50,000 data points |
|--------------------------|--------------------|

PROCESSING:

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

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 |
|---|---------|

* Only flex version