SOFREL LS-P

REMOTE READING OF METERS AND PRESSURE MEASUREMENT



USES & BENEFITS

- Pressure monitoring
- · Reducers, stabilisers and regulators monitoring
- · Service quality level measurement

PRODUCT FEATURES

- · Enhanced IP68 waterproof rating
- · Battery powered
- · Integrated high performance 2G/4G M2M antenna
- · 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
- \cdot Simplified data exploitation via the SOFREL WEB LS IoT platform





Technical and functional characteristics

Mechanical design Screwless opening system for easy access to the SIM card and battery Dimensions H 261 x W 155 mm Weight 1 kg Operating temperature 25° to 55° tc Storage temperature 25° to 170° c Watertightness Enhanced IP68 certification (30 days under 4 meters of water) Power supply Powered by an internal lithium battery Connector types Military-grade hermetic connector DATA LOGGER INPUTS: Al (Analog Inputs) 2 analog inputs for SOFREL pressure sensors or remote powering of third-party sensors per powering of per powering per powering of per powering per poweri		
Dimensions H 261 x W 155 mm Weight 1,1 kg Operating temperature 20% to +55% c Storage temperature 25% to 5-70% c Watertightness Enhanced IP68 certification (30 days under 4 meters of water) Power supply Powered by an internal lithium battery Connector types Military-grade hermetic connector DATA LOGGER INPUTS: Al (Analog Inputs) 2 analog inputs for SOFREL pressure sensors or remote powering of third-party sensors via 4-20 mA loop, 12 V or 20 V COMMUNICATION: ACLIE-M: BI/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B26/B27/B28/B66/B85 4C NBI-OT: BI/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B27/BBS Quad-band modem 4C NBI-OT: BI/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B27/BBS Quad-band CSM/CPRS/DEG (B5 0 MHz, 900 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic data logger synchronisation Daily synchronisation of the LS via the SCADA Communication with 1 or 2 PCs Pcs Periodic, programmed or event-based inter-sites communication to SSO0, S4W, VDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI status, exceeded threshold, sensor fault. CONFICURATION AND COMMISSIONINC: Bluetooth Data logger configuration via Bluetooth link Assistance with maintenance Remaining battery life calculator ARCHIVINC: Local archiving capacity 100,000 data points PROCESSING:	GENERAL FEATURES: Mechanical design	Screwless opening system for easy access to the SIM card and battery
Operating temperature		
Storage temperature	Weight	1,1 kg
Watertightness Enhanced IP68 certification (30 days under 4 meters of water) Power supply Powered by an internal lithium battery Connector types Military-grade hermetic connector DATA LOCGER INPUTS: Al (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 COMMUNICATION: 2Q(4G M2M quad-band modern 4G N2H-OF, 18)/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 4G N2H-OF, 18)/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Quad-band GSM/GPRS/EDGE (B50 MHz, 900 MHz, 1800 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic 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, VDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:	Operating temperature	-20°c to +55°c
Power supply Connector types Military-grade hermetic connector DATA LOGGER INPUTS: Al (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 COMMUNICATION: 2 (AG M2M quad-band modem 4 G LTE-M: BI/B2/B3/B4/B5/B8/B12/B13/B13/B2/B2/B2/B2/B2/B2/B2/B6/B2/B2 2 (Quad-band GSM/GPRS/EDGE (B50 MHz, 900 MHz, 1800 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic data logger synchronisation Communication with 1 or 2 PCs Periodic, programmed or event-based Inter-sites communication to S500, S4W, VPDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2C reception level measurement	Storage temperature	-25°c to +70°c
Connector types Military-grade hermetic connector DATA LOGGER INPUTS: Al (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 COMMUNICATION: 2G/4G M2M quad-band modem 4G LTE-M: BI/B2/B3/B4/Bs/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 4G NB-IoT: BI/B2/B3/B4/Bs/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Quad-band GSM/GPRS/EDGE (B50 MHz, 900 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic 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 SS00, S4W, Periodic or event-driven (change of DI status or threshold exceedance) Alert transmitted to mobile via SM5* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONINC: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:	Watertightness	Enhanced IP68 certification (30 days under 4 meters of water)
DATA LOGGER 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 COMMUNICATION: 2C/4G M2M quad-band modem 4G LTE-M : BI/B2/B3/B4/BS/B8/B12/B13/B18/B9/B20/B25/B26/B27/B28/B66/B85 4G NB-IoT : BI/B2/B3/B4/BS/B8/B12/B13/B18/B9/B20/B25/B26/B26/B25/B28/B66/B85 Quad-band GSM/CPRS/EDGE (B50 MHz, 900 MHz, 1800 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic 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, 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 Data logger configuration via Bluetooth link 4G M2M and 2G reception level measurement LEDS for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points	Power supply	Powered by an internal lithium battery
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4G LTE-M: BI/BZ/B3/B4/B5/B8/B1/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 2G/4G M2M quad-band modem 4G NB-IoT: BI/BZ/B3/B4/B5/B8/B1/B13/B18/B19/B20/B25/B28/B66/B71/B85 Quad-band GSM/GPRS/EDGE (850 MHz, 900 MHz, 1900 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic 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, YDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points	Al (Analog Inputs)	
2G/4G M2M quad-band modem 4G NB-IoT: BI/B2/B3/B4/B5/B8/B12/B13/B18/B19/B2O/B25/B28/B66/B7T/B85 Quad-band GSM/GPRS/EDGE (850 MHz, 900 MHz, 1800 MHz) Supported SIM cards Standard SIM cards (Nano and Micro SIM cards can be installed via adapter) Versatile antenna (FLEX option) 4-meters, IP68-certified external antenna Automatic 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, YDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:	COMMUNICATION:	
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Automatic 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, YDRIX or AS Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points	Supported SIM cards	Standard SIM cards (Nano and Micro SIM cards can be installed via adapter)
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Alert transmitted to mobile via SMS* Upon change in DI state, exceeded threshold, sensor fault CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity Periodic or event-driven (change of DI status or threshold exceedance) Upon change in DI status or threshold exceedance Upon change in DI status or threshold exceedance Upon change in DI st	Communication with 1 or 2 PCs	Periodic, programmed or event-based
CONFIGURATION AND COMMISSIONING: Bluetooth Data logger configuration via Bluetooth link Assistance with commissioning 4G M2M and 2G reception level measurement LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:		Periodic or event-driven (change of DI status or threshold exceedance)
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Assistance with commissioning LEDs for visual diagnosis of operation and 4G M2M/2G signal Assistance with maintenance Remaining battery life calculator ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:	Bluetooth	Data logger configuration via Bluetooth link
ARCHIVING: Local archiving capacity 100,000 data points PROCESSING:	Assistance with commissioning	·
Local archiving capacity 100,000 data points PROCESSING:	Assistance with maintenance	Remaining battery life calculator
PROCESSING:	ARCHIVING:	
	Local archiving capacity	100,000 data points
Calculation of average flows	PROCESSING:	
District metering Calculation of night flows Calculation of daily volumes, daily minimum and maximum flows	District metering	Calculation of night flows
CERTIFICATIONS:	CERTIFICATIONS:	
2014/53/UE "Radio equipment" CE Certification 2014/30/UE "Electromagnetic compatibility" 2014/35/UE "Low voltage"	CE Certification	2014/30/UE "Electromagnetic compatibility"
Enhanced IP68 certification Extended immersion test (30 days under 4 meters of water) performed by an independent laboratory	Enhanced IP68 certification	Extended immersion test (30 days under 4 meters of water) performed by an independent laboratory
STANDARD BATTERY LIFE:	STANDARD BATTERY LIFE:	
2 pressure measurement every 15 minutes, processing and daily transmission to the 12 years SCADA	processing and daily transmission to the	12 years

* Depending on the activation of the telecom operator

