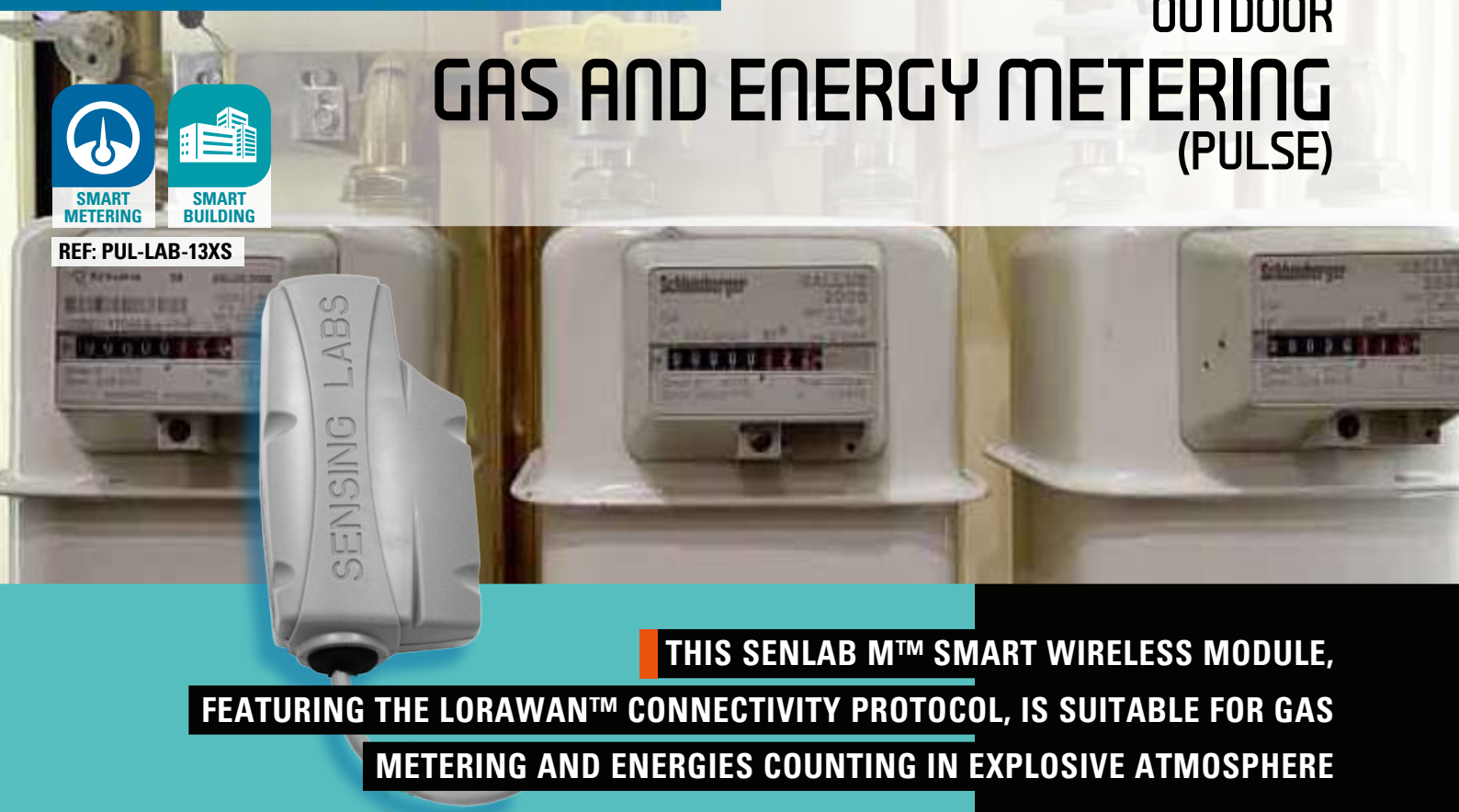
SENSING LABS

OUTDOOR
GAS AND ENERGY METERING (PULSE)

SMART METERING | SMART BUILDING

REF: PUL-LAB-13XS



THIS SENLAB M™ SMART WIRELESS MODULE, FEATURING THE LORAWAN™ CONNECTIVITY PROTOCOL, IS SUITABLE FOR GAS METERING AND ENERGIES COUNTING IN EXPLOSIVE ATMOSPHERE

PUL-LAB-13XS is compliant with ATEX certification. Designed for outdoor use, Senlab M offers a ruggedized IP68 casing and robust wireless connectivity for continuous monitoring in harsh environments.

This Senlab offers best in class features as:
- **Battery Life time**
- **Rich Data Content**
- **Radio Performances**
- **Advanced set of functionalities** (see on verso)

LoRaWAN™

*+ 20 years **

*15 km **

IP68 (Outdoor use)

Local or Public Network compliant

TYPICAL APPLICATIONS

- **Water, gas, and electricity metering**
- **Energy consumption monitoring and control**
- **Building Energy Management System**

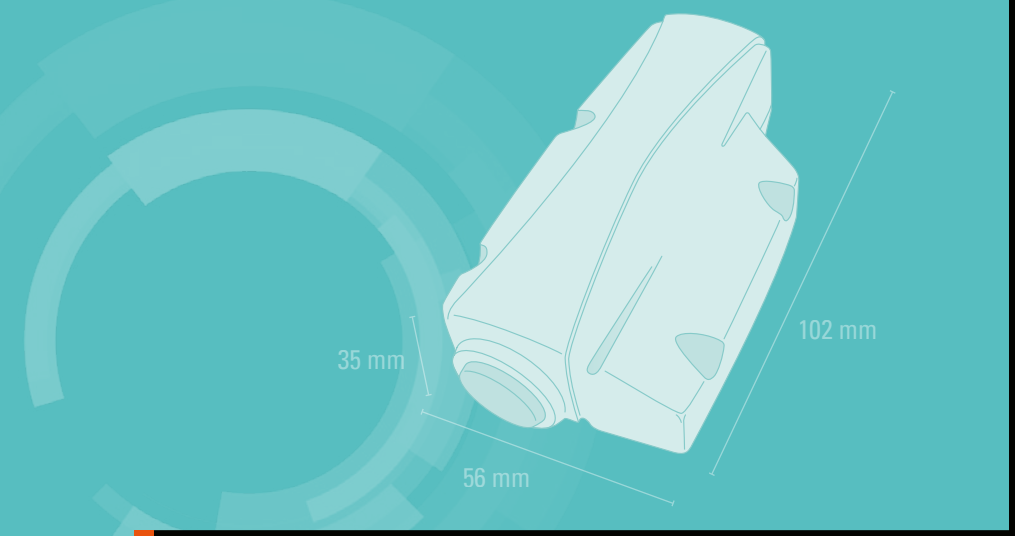
TECHNICAL SPECIFICATIONS

Physical specifications	Physical dimensions	56 x 102 x 35 mm
	Weight	140 gr
	Operating temperature	-20°C to +70°C
RF spécifications	RF sensitivity	-137 dBm
	RF power	+14 dBm (25 mW)
	Radio band	868 MHz
EC Conformity: Compliant with Directive 2014/53/UE (RED)	EMC	Final draft EN 301 489-3 v2.1.1 | Draft EN 301 489-1 v2.2.0
	Radio	EN 300 220-2 v3.1.1
	Magnetic field exposure	EN 62479
	Safety	IEC 60950-1, EN 60950-22

** Depending on the operating conditions*

SENSING LABS

DIMENSIONAL DRAWING



TECHNICAL FEATURES FOCUS

Plug & Play installation

- **Product fixing with 2 cable ties on wall or pipe provided with 1 meter cable ready to be plugged on pulse emitter**
- **Activation with magnet** (LED feedback)

High configurability of pulse counting

- **Standard input for dry contact** (including debounce algorithm)
- **Specific input for open collector circuit**
- **Set/Reset of start index**
- **Wirecut and minimal flowrate information**
- **Log and transmit mode for battery lifetime enhancement up to 24 logs per transmission**
- **Stream mode** (timestamp for each pulse) **for consumption profile analysis**
- **Reconfiguration possible over the air**

Network configuration

- **LoRaWAN parameters** (OTAA or ABP activation mode, initial datarate,...)
- **Encryption keys customizable by client**
- **Standard LoRaWAN retries support**
- **Radio collisions avoidance by pseudo-randomization of transmissions**
- **Advanced transmission reliability mechanisms** (redundancy of data, recovery of lost messages, ...)

BATTERY LIFE DURATION ESTIMATION

This following matrix provides the estimated battery lifetime depending on the average Spreading factor used by the Senlab and the transmission period.

Battery life (years)	10mn	15mn	30mn	1h	2h	4h	6h	8h	12h	24h
SF7	15,0	17,0	19,6	>20	>20	>20	>20	>20	>20	>20
SF8	12,0	14,3	17,7	>20	>20	>20	>20	>20	>20	>20
SF9	8,6	10,9	14,8	18,1	>20	>20	>20	>20	>20	>20
SF10	5,6	7,5	11,4	15,3	18,4	>20	>20	>20	>20	>20
SF11	3,5	4,8	8,0	11,9	15,7	18,7	>20	>20	>20	>20
SF12	2,0	2,9	5,2	8,4	12,4	16,1	18,0	19,0	>20	>20

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