


**WATER AND ENERGY METERING**

**(PULSE)**



 SMART BUILDING

 SMART METERING

**THIS SENLAB™ M SMART WIRELESS DEVICE,**

**FEATURING THE LoRaWAN™ CONNECTIVITY PROTOCOL,**

**IS EQUIPPED WITH TWO INPUTS : DRY CONTACT,**

**ELEC. SWITCHING, SO OUTPUT\*.**

Ref : PUL-LAB-41NS



 17 years\*  
(replaceable battery)

 15 km\*  IP30  
(Indoor use)

 Local or Public  
Network compliant

\* Depending on the  
operating conditions

Designed for indoor use, Senlab™ M offers a small casing with a discreet aesthetic that makes it ideal for housing or office. This Senlab offers best in class features such as :

- **Battery life time up to 17 years**
- **Rich Data Content thanks to datalogging : Up to 24 measures / radio transmission**
- **Radio Performances**
- **Advanced set of functionalities**
- **Dual meters monitoring**

**TYPICAL APPLICATIONS**

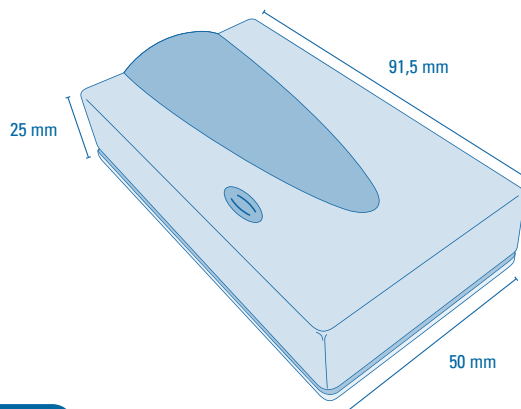
- Building Energy Management System
- Energy efficiency : Regulate energy costs
- Water, gas, and electricity metering
- Control and monitor energy consumption

**TECHNICAL SPECIFICATIONS**

Physical specifications	Dimensions	50 x 91,5 x 25 mm
	Weight	60 gr
	Operating temperature	0°C to +55°C
RF specifications	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	EN 60950-1

\*COMPATIBILITY TO CHECK

## DIMENSIONAL DRAWING



## TECHNICAL FEATURES FOCUS

### Plug & Play installation

- Product fixing with double sided tape or screw mounting
- Screw terminal for pulse emitter cable connection
- Activation with magnet (LED feedback)
- LED indication of pulse during few minutes after activation

### High configurability of pulse counting

- 2 inputs configurable for dry contact or open collector interfaces
- Set/Reset of start index
- Wirecut and minimal flowrate information
- Log and transmit mode for battery lifetime enhancement (up to 24 compressed measures 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)	10 min	15 min	30 min	1 h	2 h	4 h	6 h	8 h	12 h	24 h
SF7	12,4	13,6	15,1	16,0	16,5	16,7	16,8	16,9	16,9	16,9
SF8	10,4	12,0	14,0	15,4	16,1	16,6	16,7	16,8	16,8	16,9
SF9	7,9	9,6	12,3	14,3	15,5	16,2	16,5	16,6	16,7	16,9
SF10	5,4	7,0	9,9	12,5	14,4	15,6	16,0	16,3	16,5	16,7
SF11	3,4	4,7	7,3	10,3	12,8	14,6	15,3	15,7	16,1	16,5
SF12	2,1	2,9	5,0	7,7	10,6	13,0	14,1	14,7	15,4	16,2

6 measures per frame.

**For guidance and information purposes only.**