SENSING LABS

SMART METERING
SMART BUILDING

REF: LED-LAB-41NS

INDOOR
ELECTRICITY METERING
(OPTICAL PULSE)

THIS SENLAB M™ SMART WIRELESS MODULE,

FEATURING THE LORAWAN™ CONNECTIVITY PROTOCOL,

IS EQUIPPED WITH A LIGHT-PULSE SENSOR.

Senlab M connects onto the optical pulse output of electricity meters to be monitored.
Sensor deployment is fast and non-intrusive with the provided double-sided adhesive on the probe.

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

LoRaWAN™

4 years *
(replaceable battery)

15 km *

IP30
(Indoor use)

Local or Public
Network compliant

TYPICAL APPLICATIONS

- Electricity metering
- Energy consumption monitoring and control
- Building Energy Management System

TECHNICAL SPECIFICATIONS

Physical specifications	Physical dimensions	50 x 91,5 x 25 mm
	Weight	65 gr
	Operating temperature	0°C to +55°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

Depending on the operating conditions

DIMENSIONAL DRAWING

91,5 mm

25 mm

50 mm
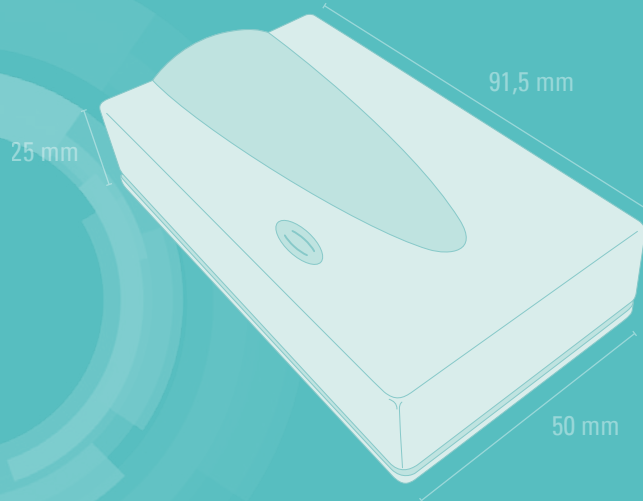
TECHNICAL FEATURES FOCUS

Plug & Play installation
- **Product fixing with double sided tape or screw mounting**
- **Double sided tape probe mounting** (provided with positionning tool)
- **Activation with magnet** (LED feedback)

High configurability
- **Compatible with all eletronic meters with minimal LED blinking of 10ms**
- **Compatible with all LED light visible by human** (green, red, orange, blue)
- **Set/Reset of start index**
- **Log and transmit mode for battery lifetime enhancement up to 24 logs per transmission**
- **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	3,6	3,7	3,8	3,9	3,9	3,9	3,9	3,9	3,9	3,9
SF8	3,4	3,5	3,7	3,8	3,9	3,9	3,9	3,9	3,9	3,9
SF9	3,0	3,3	3,6	3,7	3,8	3,9	3,9	3,9	3,9	3,9
SF10	2,5	2,8	3,3	3,6	3,7	3,8	3,9	3,9	3,9	3,9
SF11	1,9	2,3	2,9	3,3	3,6	3,8	3,8	3,8	3,9	3,9
SF12	1,4	1,7	2,4	3	3,4	3,6	3,7	3,8	3,8	3,9

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