SENSING LABS

SMART BUILDING

SMART INDUSTRY

REF: TOR-LAB-13NS

OUTDOOR
EVENT AND ALARM MONITORING

SENLAB D™ OUTDOOR IS A SMART WIRELESS MODULE, FEATURING THE LORAWAN™ CONNECTIVITY PROTOCOL, EQUIPPED WITH AN INTEGRATED DIGITAL INPUT SENSOR FOR ON/OFF OR OPEN/CLOSE STATE DETECTION.

Designed to monitor the status of relays, transistors, and switches and detect abnormalities, Senlab D IP68 offers a highly-configurable information reporting algorithm, notably for triggering alarms, counting, and more.
It is ideal for your security or preventive maintenance needs.

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

- Alert and Event management for action triggering
- Treatment plant pump remote control
- Boiler, Power generator, Air Conditionning state monitoring
- Machine fault detection
- Building information modeling (BIM) systems

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

DIMENSIONAL DRAWING

102 mm

35 mm

56 mm
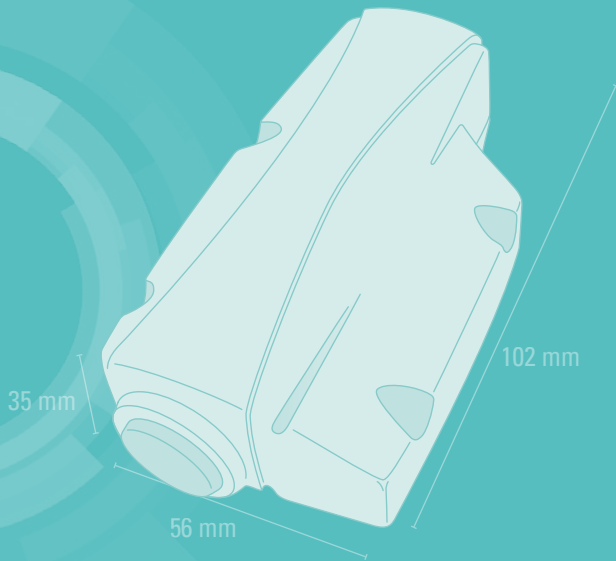
TECHNICAL FEATURES FOCUS

Plug & Play installation
- **Product fixing with 2 cable ties on wall or pipe provided with 1 meter cable ready to be plugged on digital sensor**
- **Activation with magnet** (LED feedback)

High configurability of event detection and transmission
- **Event notification of open/close or on/off digital state**
- **State detection duration configurable**
- **Immediate transmission or after N events or after maximum duration**
- **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	16,8	18,5	>20	>20	>20	>20	>20	>20	>20	>20
SF8	14,1	16,2	19,1	>20	>20	>20	>20	>20	>20	>20
SF9	10,5	12,8	16,5	19,3	>20	>20	>20	>20	>20	>20
SF10	7,1	9,2	13,2	16,8	19,5	>20	>20	>20	>20	>20
SF11	4,4	6,1	9,6	13,6	17,2	19,7	>20	>20	>20	>20
SF12	2,6	3,7	6,4	10,0	14,0	17,4	19,0	19,9	>20	>20

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