SENSING LABS

SMART BUILDING

TEMPERATURE HUMIDITY

REF: THY-LAB-41NS

INDOOR
AMBIENT TEMPERATURE
AND HUMIDITY MONITORING

SENLAB T°+H IS A SMART WIRELESS MODULE, FEATURING THE LORAWAN™ CONNECTIVITY PROTOCOL, WITH A HIGH-PRECISION TEMPERATURE AND RELATIVE HUMIDITY SENSOR.

The sensor offers accuracy of ±0.4°C and ±3% RH maximum (with an operating range of 0 to 100% RH).
Designed for indoor use, Senlab T°+H offers a small form factor and discreet aesthetics that make it ideal for the home or office.

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 * (replaceable battery)

15 km *

IP30 (Indoor use)

Local or Public Network compliant

TYPICAL APPLICATIONS

- Building management
- Home comfort and workspace optimization
- Servers rooms and critical equipments protection

TECHNICAL SPECIFICATIONS

Physical specifications	Physical dimensions	50 x 91,5 x 25 mm
	Weight	75 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

25 mm

91,5 mm

50 mm
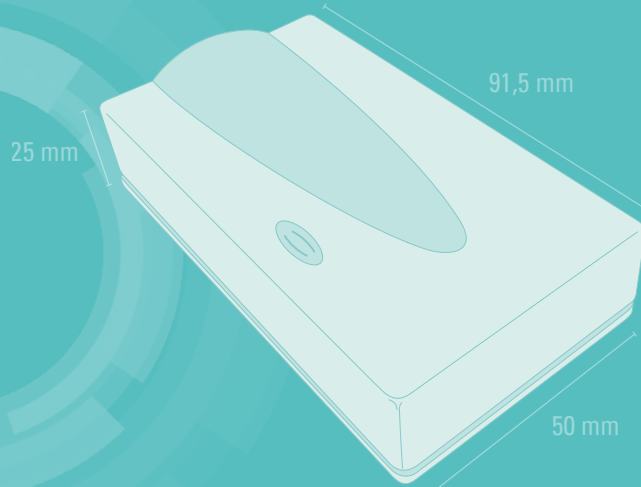
TECHNICAL FEATURES FOCUS

Plug & Play installation
- **Product fixing with double sided tape or screw mounting**
- **Long term measure stability** (<0,01°C/Yr and <0,25%RH/Yr- no need for calibration)
- **Activation with magnet** (LED feedback)

High configurability
- **Temperature precision of +/-0.3°C range** [0;+55°C]
- **Humidity precision of +/-2%RH range** [+10;+55°C]
- **Temperature High and Low threshold overrun configuration**
- **Log and transmit mode for battery lifetime enhancement up to 23 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	13,7	15,5	17,8	19,3	>20	>20	>20	>20	>20	>20
SF8	11,0	13,1	16,1	18,2	19,5	>20	>20	>20	>20	>20
SF9	8,0	10,0	13,6	16,5	18,5	19,6	>20	>20	>20	>20
SF10	5,2	7,0	10,5	14,0	16,8	18,6	19,4	19,7	>20	>20
SF11	3,2	4,5	7,4	10,9	14,3	17,0	18,2	18,8	19,5	>20
SF12	1,9	2,7	4,8	7,8	11,4	14,7	16,4	17,3	18,4	19,6

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