

**WIRELESS TRANSMITTER FOR  
4-20 MA SENSORS MONITORING**



SMART INDUSTRY

Ref : 4MA-LAB-13NS



+ 20 years\*

15 km \*

IP68  
(Outdoor use)

Local or Public  
Network compliant

\* Depending on the  
operating conditions

SENLAB™ A IS A SMART WIRELESS DEVICE, FEATURING

THE LoRaWAN™ CONNECTIVITY PROTOCOL, EQUIPPED WITH

A 4-20 MA INPUT SENSOR COMPATIBLE WITH PRESSURE

TRANSMITTERS, ACCELEROMETERS, WEATHER SENSORS...

Designed for outdoor use, Senlab™ A offers a ruggedized IP68 casing for outdoor use which enables a reliable wireless connectivity for continuous monitoring in challenging environments.

This Senlab offers best in class features such as :

- **Battery life time more than 20 years**
- **Rich Data Content thanks to datalogging : Up to 24 measures / radio transmission**
- **Radio Performances**
- **Advanced set of functionalities**

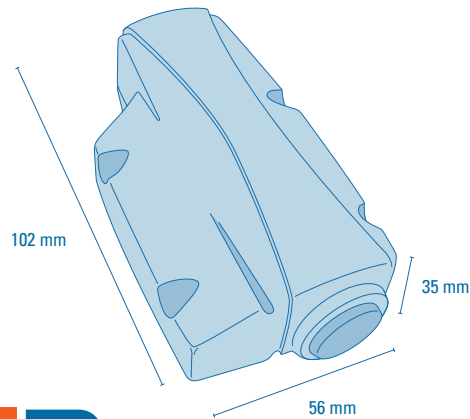
**TYPICAL APPLICATION**

- Optimize 4-20mA sensors
- Monitor data from weather station

**TECHNICAL SPECIFICATIONS**

Physical specifications	Dimensions	56 x 102 x 35 mm
	Weight	140 gr
	Operating temperature	-20°C to +70°C
RF specifications	RF sensitivity	-137 dBm
	RF power	+14dBm (25mW)
	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, EN 60950-22

## DIMENSIONAL DRAWING



## TECHNICAL FEATURES FOCUS

### Plug & Play installation

- Product fixing with 2 cable ties on wall or pipe
- Provided with 0,5 meter cable ready to be plugged on 4/20mA sensor
- Activation with magnet (LED feedback)

### High configurability

- High and Low threshold overrun configuration
- Log and transmit mode for battery lifetime enhancement (up to 24 measures 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)	10 min	15 min	30 min	1 h	2 h	4 h	6 h	8 h	12 h	24 h
SF7	18,4	>20	>20	>20	>20	>20	>20	>20	>20	>20
SF8	14,4	17,4	>20	>20	>20	>20	>20	>20	>20	>20
SF9	10,0	12,9	18,2	>20	>20	>20	>20	>20	>20	>20
SF10	6,4	8,6	13,5	18,7	>20	>20	>20	>20	>20	>20
SF11	3,8	5,4	9,2	14,1	19,3	>20	>20	>20	>20	>20
SF12	2,2	3,2	5,8	9,7	14,7	19,9	>20	>20	>20	>20

6 measures per frame.

**For guidance and information purposes only.**