SIGFOX^{TM} VENTILATION SENSOR

1. GENERAL FUNCTIONS

The ventilation sensor is dedicated to measure air depression in building ventilation chambers and transmit regularly, according to configuration, over the ultra-narrow band, secure, long range, low power consumption, Sigfox^{TM} radio network. Optionally, the sensor may also measure, record and transmit the external air temperature.

The ventilation sensor integrates the following functions:
- Pressure sensor
- Temperature sensor (Option)
- Radio transceiver
- Lithium battery 3.6V/3.6Ah: Life expectancy is 12 years for hourly measurement and one radio transmission per day
- Plastic housing 84x82x55mm: IP55 and UL94-V0 HB

The sensor is installed on roof of buildings, sufficiently close but higher than the ventilation chamber. It should be protected from direct sunlight and rain.
A plastic air tube (internal Ө =6mm) is connected to the ventilation chamber and the sensor (See installation instructions data sheet).

The following parameters are factory configured:
- Minimum interval between two measurements (1h to 48h by 1h step)
- Radio transmission period (6h to 48h by 1h step)
- Alarm level
  - Min. Pressure

- o Max. Pressure
- o Battery level
- o Temperature Min. & Max (Option)

Alarm level is transmitted during a normal radio transmission.

A counter is incremented at every payload transmission to allow lost transmission detection.

2. TECHNICAL PARAMETERS

Parameters	Min.	Typical	Max.	Unit	Comments
RADIO					
Frequency	868		870	MHz	25°C
Tx power			14	dBm	25°C
Rx sensitivity			-126	dBm	25°C
Modulation					
MAC layer		Sigfox			
Network layer					
Application layer					
PRESSURE Sensor					
Range	0		10	kPa	
Resolution		15		Pa	
TEMPERATURE Sensor (Optional)					Optional
Range	-20		60	°C	
Resolution		0,2		°C	
Battery (3,6V; 3,6Ah)		3,6		V	Lithium battery
Autonomy		12		Year	Hourly measurement + 1Tx/day, without temperature sensor
		10		Year	With temperature sensor
TEMPERATURE					
Operation	-20		60	°C	
Storage	-10		30	°C	
PLASTIC HOUSING		84x82x55		mm	IP55, UL94-V0 HB
APPLICABLE NORMS					
EN 61000-4-2					
EN 300-220-1 V2-4-1					
EN 301 489 V1-6-1					
CE & RoHS					

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