

# BREATH

## Optimising comfort and ensuring the health of occupants

Functions: **PM1, PM2.5, PM10 and TVOC, alert button, dry contact input**



**MEASURE**

- Periodically monitor :
  - the level of fine particles
  - the level of TVOC
- Count the number of events on the alarm button or dry contact input



**ALERT**

- And/or trigger an alarm if:
  - high or low threshold(s) are exceeded
  - press the alert button
  - event on the dry contact input

### Additional features:



- **User information:** indicator light on the unit
- **Data sending mode:** periodic and/or on events
- **Optimisation of autonomy:** historisation
- **Data accessibility:** redundancy
- **Daily 24-hour summary screen**
- **Error / fault management:** configuration error, fine particle sensor hardware fault
- **Network quality test at start-up**  
Class C LoRaWAN



### Working environment

Ensuring air quality in the workplace for the comfort and health of users.



### Schools, Colleges and High Schools

In response to legislation: monitoring and improving indoor air quality.

# TECHNICAL SPECIFICATIONS



## LoRaWAN ARF8377AA

### Mechanical specifications

Weight	107,5 g
Dimensions	111 x 61 x 40 mm
Enclosure	IP20, Bayblend® FR3010 (PC/ABS) plastic, white
Mounting	Wall or laid flat

### Operating conditions

Temperature	0°C / +50°C
Humidity	0 to 85% RH (non-condensing)

### Device Power Supply

External power supply included	External 5VDC 1A - Power supply 100-240VAC to 5V USB - supplied
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### Device configuration

Local device configuration	IoT Configurator
Remote device configuration	Downlink via the network or via the KARE platform or through the KARE platform
Configuration and firmware update over-the-air	KARE+ compatible
Security	PIN/PUK Code protection

### Radio/Wireless

Supported regions	LoRaWAN EU863-870
Wireless Security	AES-128 data encryption
Class	Class A or C
Supported LoRaWAN features	OTAA, ABP, ADR, adaptive channel setup
RF transmit power	14 dBm
Sensitivity	-136 dBm LoRaWAN @SF12

### Regulations and certifications

Standard	Directive 2014/53/UE (RED)
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SENSOR- PM		SENSOR - COVT	
Unity	µg/m <sup>3</sup>	Unity	µg/m <sup>3</sup>
Range	Typi : 0 / 1000 µg/m <sup>3</sup> Max : 65534 µg/m <sup>3</sup>	Range	0 / 270 mg/m <sup>3</sup>
Accuracy	Range < 100 µg/m <sup>3</sup> : ± 10µg/m <sup>3</sup> max Range 100 – 1000 µg/m <sup>3</sup> : ± 10 % m.v. >1000µg/m <sup>3</sup> not guaranteed	Accuracy	Typ 15% meas. Value Ethanol Calibration
Resolution	1 µg/m <sup>3</sup>	Resolution	± 4.5 µg/m <sup>3</sup> (0 to 9036 µg/m <sup>3</sup> ) ± 27 µg/m <sup>3</sup> (9036 to 49995 µg/m <sup>3</sup> ) ± 144 µg/m <sup>3</sup> (49995 to 270000 µg/m <sup>3</sup> )
Particle size	0,3 µm to 2,5 µm	Dispersion D2D	250% max
		Operating conditions	10 to 40 °C 20 to 80 %RH

