



## Features & Benefits

- Accurately measures up to ten key outdoor air quality parameters
- Powered via battery or an external source
- Optional Solar Power Supply (SPS)
- Optional gas sensor, CH<sub>2</sub>O, CO, NO<sub>2</sub>, H<sub>2</sub>S, SO<sub>2</sub>
- Optional sound sensor
- Communicates via outstanding LoRaWAN wireless technology
- Simple integration into BMS via BACnet or Modbus gateway

## Technical Overview

Outdoor air quality monitor measures key environmental parameters continuously and in real time with exacting accuracy. Using cutting-edge digital and gas sensing technology, the OAQ ensures drift-free reading without further calibration and extended instrument longevity. Available with temperature, relative humidity, particulate matter, CO<sub>2</sub>, Ozone, VOC's, barometric pressure, sound level and internationally approved Air Quality Index – AQI.

## Technical Specification

<b>Radio output type</b>	LoRaWAN
<b>Frequency Range</b>	863-870MHz, 902-928MHz
<b>Security</b>	AES 128 encryption
<b>Batteries</b>	4 x AA sized 3.6V Lithium Thionyl Chloride. LS14500
<b>Battery Life</b>	2+ Years
<b>VOC's</b>	IAQ Index 0 to 500 (see below) TVOC level (ppm) Variability ±15% (typical) Response time: (tr33-63%) 1 s
<b>Barometric Pressure</b>	Accuracy: ±0.12hPa (equivalent to ±1m in altitude) Range (with full accuracy): 300 – 1100hPa Resolution: 0.18Pa
<b>Particulate matter</b>	PM0.5, PM1, PM2.5, PM4 & PM10 Sensing method: Laser-based light scattering particle sensing Concentration range: 0-1000µg/m <sup>3</sup> Accuracy: PM1, PM2.5 0µg/m <sup>3</sup> to 100µg/m <sup>3</sup> ± 5µg/m <sup>3</sup> +5% m.v. 100µg/m <sup>3</sup> to 1000µg/m <sup>3</sup> ± 10% m.v. PM4, PM10 0µg/m <sup>3</sup> to 100µg/m <sup>3</sup> ± 25µg/m <sup>3</sup> 100µg/m <sup>3</sup> to 1000µg/m <sup>3</sup> ± 25% Response Time: < 6s (t90) Sensor life expectancy: > 3 years

<b>EPA Air Quality Index (AQI)</b>	AQI Index 0 to 500 Ozone detection 20 – 500 ppb Nitrogen Dioxide Detection 20 – 500 ppb Variability $\pm 50$ AQI
<b>CO2</b>	Sensing method: Optical. Non-dispersive infrared (NDIR) Accuracy: $\pm(30, +3\%)$ ppm (typ.) Range: 0 – 5,000 ppm Extended range 0 – 10,000 ppm Response time: 3 minutes (t90) Sensor life expectancy: >15 years
<b>Operating Humidity</b>	0 – 95%RH, Non-Condensing
<b>Operating Temperature</b>	-10 – 40°C
<b>Optional permanent supply</b>	2-24V Volts DC. 0.15 Amp (max)
<b>Output range humidity</b>	Accuracy: $\pm 2\%$ (typical) Repeatability: $\pm 0.1\%$ Response time: 15s
<b>Output range temperature</b>	Accuracy: $\pm 0.2^\circ\text{C}$ (typical) Repeatability: $\pm 0.1^\circ\text{C}$ Conversion time: 6.35ms
<b>Housing Material</b>	Nylon PA12
<b>Housing colour</b>	Black
<b>Dimensions</b>	180mm x 120mm x 51mm
<b>IP Rating</b>	IP42 (conformally coated electronics)
<b>Compliance</b>	Pre-certified radio regulatory approvals: 868 & 915 MHz spectrum CE, FCC RoHS MCERTS Certified (PM2.5)
<b>Country of origin</b>	UK

## Related Product Codes

<b>RF-LW-TOAQ</b>	Outdoor Air Quality Monitor. Temperature, Relative Humidity, VOC's, Barometric Pressure. Particulate Matter - PM1, 2.5, 4, 10. EPA AQI Air Quality Index (based on NO2 and O3).
<b>RF-LW-TOAQ-CO2</b>	Outdoor Air Quality Monitor. Temperature, Relative Humidity, VOC's, Barometric Pressure. Particulate Matter - PM1, 2.5, 4, 10. EPA AQI Air Quality Index (based on NO2 and O3). CO2