

## Features & Benefits



- Built in USB port for configuration
- Multiple sensor options
- Vertical wall mounting or horizontal ceiling mounting
- Whisper quiet fan to draw air through the enclosure for sampling & monitoring

## Technical Overview

Air Quality Monitor is a precision instrument which accurately measures up to 14 key environmental parameters including Temperature, Humidity, Light Level, VOC's, Carbon Dioxide, Particulate Matter (PM1, 2.5, 4 & PM10), Oxygen, Barometric Pressure, Ozone\*, Sound Level\*, plus up to 4 plug-in calibrated gas sensors from a range of over 200 gases / sensitivities including Nitrogen Dioxide, Sulphur Dioxide, Hydrogen Sulphide, Formaldehyde, Carbon Monoxide, Chlorine, Hydrogen, Hydrogen Chloride, Hydrogen Cyanide, Hydrogen Fluoride, Ammonia.

## Technical Specification

<b>Radio output type</b>	LoRaWAN
<b>Frequency Range</b>	863-870MHz, 902-928MHz
<b>Security</b>	AES 128 encryption
<b>Power Supply</b>	12-24V Volts DC. 1 Amp (max)
<b>VOC's</b>	IAQ Index 0 to 500 (see below) ppm (bVOC) Response time: (τ133-63%) 1 s Sensor life expectancy: > 10 years
<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>	Particles measured: PM0.5, PM1, PM2.5, PM4 & PM10 Sensing method: Laser-based light scattering particle sensing Concentration range: 0 – 1,000 µg/m3 Accuracy: PM1, PM2.5 0 µg/m3 to 100 µg/m3 ± 10 µg/m3 100 µg/m3 to 1000 µg/m3 ±10 % m.v. Accuracy: PM4, PM10 0 µg/m3 to 100 µg/m3 ± 25 µg/m3 100 µg/m3 to 1000 µg/m3 ±25 % m.v. Mass concentration resolution: 1 µg/m3 Lower limit of detection: 0.3 µm Response Time: < 6s (t90) Sensor life expectancy: > 8 years

<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>O2</b>	Sensing method: Fluorescence-based optical filtering. Accuracy: <2% PPO2 Pressure $\pm 5$ mbar Range 0-25% O2 Resolution 0.01% Response time <30s (t90, Typical) Sensor life expectancy: > 5 years
<b>Light Level</b>	Less than 4% error Precision optical filtering to match human eye: Rejects > 99% of IR (typical). Range: 0.01 lux to 83,000 lux Light source variation (incandescent, halogen, fluorescent): 4%
<b>Sound</b>	Sensitivity: -26dB FS $\pm 1$ dB SNR: 65dBA Dynamic Range: 91dBA Acoustic Overload Point: 120dB SPL Total Harmonic Distortion: 0.2% (Typical) @ 105dB SPL
<b>Operating Temperature</b>	-10 – 60°C
<b>Operating Humidity</b>	0 – 95%RH, Non-Condensing
<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>Additional gas options</b>	Nitrogen Dioxide, Sulphur Dioxide, Hydrogen Sulphide, Formaldehyde, Carbon Monoxide, Chlorine, Hydrogen, Hydrogen Chloride, Hydrogen Cyanide, Hydrogen Fluoride, Ammonia
<b>Housing Material</b>	Aluminium profile AlMgSi 0,5. Silver anodized Plastic parts ASA+PC-FR. Black (RAL 9005)
<b>Dimensions</b>	200mm x 100mm x 40mm
<b>Compliance</b>	Pre-certified radio regulatory approvals: 868 & 915 MHz spectrum CE RoHS MCERTS Certified
<b>Country of origin</b>	UK

## Related Product Codes

**RF-LW-TIAQ-OX**

Indoor Air Quality Monitor with Temperature, Relative Humidity, Light Level (LUX), VOC's, Barometric Pressure. CO2. Oxygen. Particulate Matter - PM1, 2.5, 4, 10

---