

## AIQ MONITOR DESCRIPTION



### Temperature

Temperature is not just a matter of comfort, it can negatively affect sleep quality, mood, and alertness



### Humidity

High humidity promotes mold growth and aggravates asthma symptoms, while too-dry air can lead to skin and throat irritation.



### Particulate matter (PM 2.5)

Fine particulate matter (PM2.5) reaches deep in the lungs causing short-term discomfort and long-term health risks.



### Airborne chemicals (VOCs)

Volatile organic compounds (VOCs) are airborne chemicals emitted by everyday items - many are harmless but some are toxic.



### Carbon Dioxide (CO2)

When it reaches high levels indoors, carbon dioxide (CO2) can cause poor sleep and trouble concentrating.



### Air pressure

Changes in air pressure affect radon levels and, for some, they can trigger headaches, joint stiffness and pain.



### Radon

You can't see or smell it, but long-term exposure to this radioactive gas is the top cause of lung cancer in non-smokers.

## TECHNICAL SPECIFICATIONS

- **Sensors:** Radon, particulate matter (PM<sub>2.5</sub>), Carbon dioxide (CO<sub>2</sub>), temperature, humidity, airborne chemicals (VOC), air pressure

## RADON SPECIFICATIONS

- **Radon sampling:** Passive diffusion chamber
- **Detection method:** Alpha spectrometry
- **Measurement range:** 0 – 500 pCi/L / 0 – 20,000 Bq/m<sup>3</sup>
- **Accuracy/precision at 5.4 pCi/L / 200 Bq/m<sup>3</sup>:** After 7 days ~ 10 % After 2 months ~ 5 %

## AIR QUALITY SPECIFICATIONS

- **Sensor sampling interval:**  
5 minutes
- **Sensor Resolution:**  
Temperature  $\mp 0.1^{\circ}\text{C} / \text{F}$   
Humidity  $\mp 1\%$   
Pressure  $\mp 0.15\text{hPa}$
- **Initial calibration time:**  
VOC ~7 days  
CO<sub>2</sub> ~7 days
- **CO<sub>2</sub> details:**  
NDIR Sensor (Non-Dispersive Infra-Red):  
Measurement range 400–5000 ppm  
Optimum Accuracy  $\pm 50\text{ppm} \pm 3\%$  within 10 – 35°C / 50 - 95°F and 0 – 80%RH after initial calibration time
- **Particulate Matter (PM<sub>2.5</sub>) details:**  
Laser scattering based optical particle counter  
Particle size detection range: 300 nm to 10  $\mu\text{m}$   
Range: 0~200  $\mu\text{g}/\text{m}^3$   
Measurement error (PM<sub>2.5</sub>): 0 ~100 $\mu\text{g}/\text{m}^3$ ,  $\pm 10\mu\text{g}/\text{m}^3$ , 100 ~200  $\mu\text{g}/\text{m}^3$ ,  $\pm 10\%$ . Calibrated with a GRIMM using cigarette smoke source

## THRESHOLD LEVELS

- **Radon (pCi/L)**
  - $\geq 4$  pCi/L
  - $\geq 2.7$  and  $< 4$  pCi/L
  - $< 2.7$  pCi/L
- **Radon (Bq/m<sup>3</sup>)**
  - $\geq 150$  Bq/m<sup>3</sup>
  - $\geq 100$  and  $< 150$  Bq/m<sup>3</sup>
  - $< 100$  Bq/m<sup>3</sup>
- **Particulate matter (PM<sub>2.5</sub>)**
  - $\geq 25$   $\mu\text{g}/\text{m}^3$
  - $\geq 10$  and  $< 25$   $\mu\text{g}/\text{m}^3$
  - $< 10$   $\mu\text{g}/\text{m}^3$
- **Carbon dioxide (CO<sub>2</sub>)**
  - $\geq 1000$  ppm
  - $\geq 800$  and  $< 1000$  ppm
  - $< 800$  ppm
- **Humidity**
  - $\geq 70$  %
  - $\geq 60$  and  $< 70$  %
  - $\geq 30$  and  $< 60$  %
  - $\geq 25$  and  $< 30$  %
  - $< 25$  %
- **Temperature (°F)**
  - $> 77$  °F
  - $\geq 64$  and  $\leq 77$  °F
  - $< 64$  °F
- **Temperature (°C)**
  - $> 25$  °C
  - $\geq 18$  and  $\leq 25$  °C
  - $< 18$  °C
- **Airborne chemicals (VOC)**
  - $\geq 2000$  ppb
  - $\geq 250$  and  $< 2000$  ppb
  - $< 250$  ppb