

VTX Air

# Air Quality Sensor

Datasheet



Hyperlocal air pollution monitoring devices that measure Particulate Matter and Gaseous Pollutants in real-time, Vortex's active sampling sensors monitor air quality at street level.

Priced for high density and scalable deployment, they are designed for stand-alone and city-wide installations for fine detailed data collection and integration with other environmental, traffic, and enterprise systems.

## Sensing Technology

Particulate Matter Detection

→ Optical scattering sensor for PM2.5 and PM10

Pollutant Gas Sensors

→ Electrochemical sensors for O<sub>3</sub> and NO<sub>2</sub>

Pollutant Gas Sensors (Optional)

→ Electrochemical sensors for SO<sub>2</sub> and NO (optional)

Environmental Sensors

→ Relative Humidity and Temperature (ambient and internal)



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## Sensor Characteristics

	PM2.5	PM10	NO2	O3
Measurement Range	1 to 999 $\mu\text{g}/\text{m}^3$	1 to 1999 $\mu\text{g}/\text{m}^3$	0 -20ppm	0 -20ppm
Resolution	1 $\mu\text{g}/\text{m}^3$	1 $\mu\text{g}/\text{m}^3$	0.05ppb (0.1 $\mu\text{g}/\text{m}^3$ )	0.05ppb (0.1 $\mu\text{g}/\text{m}^3$ )
Measurement Accuracy	Max ( $\pm 2\mu\text{g}/\text{m}^3$ )	Max ( $\pm 5\mu\text{g}/\text{m}^3$ )	Max ( $\pm 4\mu\text{g}/\text{m}^3$ , $\pm 2\text{ppb}$ )	Max ( $\pm 5\mu\text{g}/\text{m}^3$ , $\pm 2\text{ppb}$ )
Precision R <sup>2</sup>	>0.9	>0.9	>0.9	>0.85
90% Confidence Interval	4 $\mu\text{g}/\text{m}^3$	6 $\mu\text{g}/\text{m}^3$	3.6ppb (7 $\mu\text{g}/\text{m}^3$ )	5ppb (10 $\mu\text{g}/\text{m}^3$ )

Minimum Sampling Interval: 1 minute (5 minutes optional)

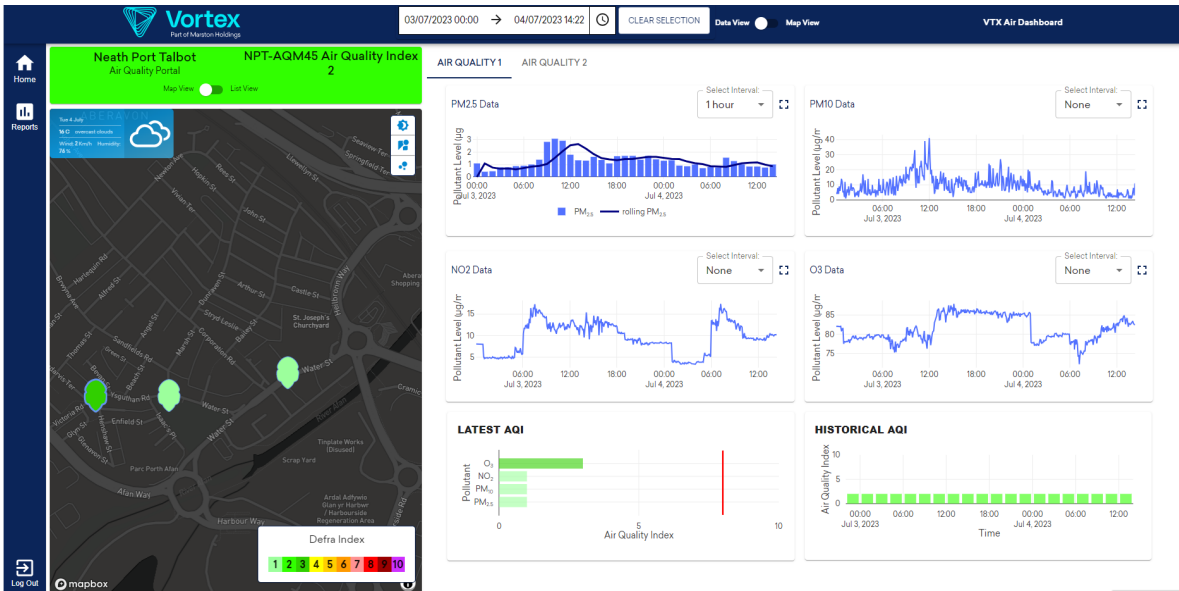
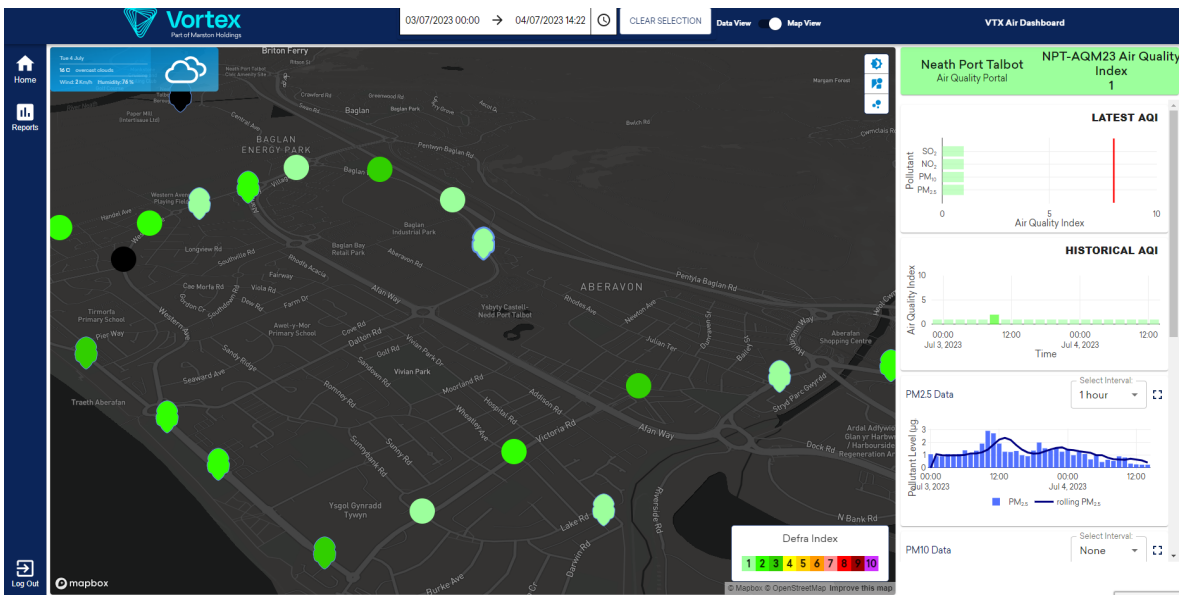


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## Data Access

Vortex Air Web Portal- see real time data vs DEFRA air quality index



Application Programming Interface (API)

→ Download current and historic data



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## Wireless Characteristics

Sim Card Free

Edge Gateway Connectivity

Mesh Network

Antenna

→ 4G, WiFi and Ethernet

→ Self-contained Wireless Mesh Network, 128-bit AES Encryption

→ Built-in antenna

## Power

Mains Power

→ 120-240v, 0.3W consumption

## Mechanical

Weight

→ 1.5kg

Size

→ Height - 24cm, Width - 18cm & Depth- 21cm

Mounting Plate included for installation on lamp posts, walls and other vertical structures

## Lifetime

Service Life

→ >24 months

Overall Product Life

→ 10 years

## Environmental Conditions

Harsh Environment Protections

→ Splashproof / Dustproof / Self Cleaning Mechanism

Operating Temperature

→ -10°C-60°C / 0-100% RH

Ingress Protection

→ IP56

## Compliances

Compliance Standards

→ CE / RoHS / ELEXON / MCERTS

