



Insight into air pollution from aviation

Datasheet

Sentinel Air Quality (SAQ) station Aviation

The Sentinel station for Aviation is a specialised monitoring solution designed to meet the unique demands of airports and aviation-related environments.

It features advanced sensors capable of measuring particulate matter (PM₁, PM_{2.5}, PM₄, PM₁₀), gases such as NO_x, O₃, CO₂, and VOCs, providing accurate and real-time air quality data.

The station is housed in a durable, weather-resistant enclosure, ensuring reliable performance in diverse airport conditions. With a user-friendly interface and seamless integration with existing airport systems, it enables effective air quality management to protect passengers, staff, and comply with environmental regulations.

The Observator Sentinel station comes as standard equipped noise sensor and can be optionally equipped with radar for vehicle tracking and classification and full

meteorological solutions from the Observator Instruments portfolio.

Features

- Air sample conditioning
- Gas and PM sampling systems
- Climate controlled enclosure
- Controlled and measured air flow volume
- Particulate matter measurement: PM₁, PM_{2.5}, PM₄, PM₁₀, and TSP
- 4 gas measurements included as standard: NO_x, O₃, CO₂, TVOC
- Up to 7 gas measurements per station
- Optional gases to select: NO, NO₂, CH₄, CO, H₂S, NH₃, HCl, SO₂
- All integrated into 1 enclosure
- Included noise measurement

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General

Observator Sentinel stations are equipped to measure PM₁, PM_{2,5}, PM₄, PM₁₀, and TSP, and gases such as NO, NO₂, NO_x, O₃, CH₄, CO, H₂S, NH₃, HCl, CO₂, SO₂, and TVOC, all integrated into a single enclosure. Each station can measure up to seven gases and features a stainless steel 304 enclosure with air sample conditioning, gas and PM sampling systems, and climate control. The controlled and measured air flow volume ensures accuracy, while the design allows easy access for maintenance and servicing. Installation is straightforward, with all necessary mounting elements included.

The Observator Sentinel stations come with comprehensive software support, including a Windows-based application for detailed data analysis and management. Additionally, mobile apps for both Android and Apple devices provide on-the-go access to real-time data and notifications. For those seeking enhanced accessibility and data security, optional cloud hosting and browser access are available, allowing users to monitor and manage air quality data from anywhere with an internet connection. This versatile software suite ensures that users can stay informed and maintain control over their air quality monitoring operations with ease.

Specifications

Particulate Matter:

- Principle – Optical Particle Counter
- Classification – PM₁, PM_{2,5}, PM₄, PM₁₀, TSP
- Measurement range (size) – 0,35 – 40 µm
- Measurement range (mass) – 0 – 2 mg/m³
- Size channels – 24

Gases:

- Principle – Electrochemical
- Gases included as standard – NO_x, O₃, CO₂, TVOC
- Optional gases: NO, NO₂, CH₄, CO, H₂S, NH₃, HCl, SO₂
- Max amount per station – 7 gases
- Typical lifetime – 24 months

Power requirements:

- Power supply – 110/220Vac
- Power consumption – max 200W

Communication and data collection:

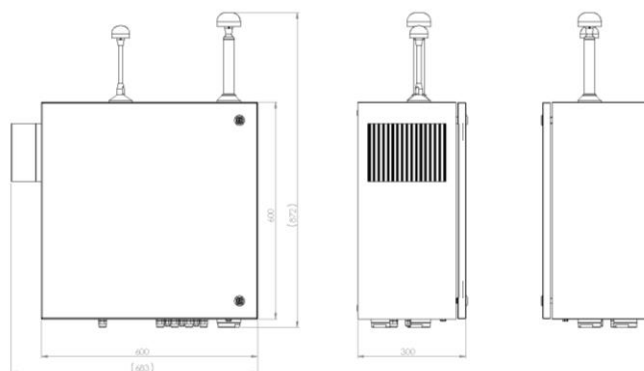
- WiFi, Ethernet LAN, GSM 3G, GSM 4G LTE, LoRaWAN, GPS, USB, SD card, Bluetooth

Environmental:

- Enclosure – Stainless Steel 304
- Operating temperature – -35°C to +60°C
- Dimensions - 600x600x300mm (without collectors)
- Weight – 40 kg
- Protection – IP65

Optional equipment:

- Class 1 Urban Noise Monitoring Terminal
- Side-fire dual-beam ITS radar sensor
- Meteorological sensors



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Originating from the Netherlands, Observator has grown into an internationally oriented company with a worldwide distribution network and offices in Australia, Germany, the Netherlands, Poland, Singapore and the United Kingdom.



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