

DUST SENTRY

Continuous outdoor dust and particle monitor

Accurate real-time air quality information, made affordable

Designed for those who need to monitor and manage outdoor dust and particle emissions continuously and in real-time, the Dust Sentry is a nephelometer-based instrument that delivers affordable and accurate measurement of PM₁₀, PM_{2.5}, PM₁, or TSP.

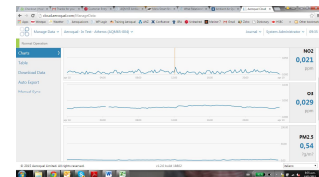
Compared to reference-equivalent monitors like TEOMs and BAMs the Dust Sentry reports accurately at 1 minute intervals and has a lower total cost of ownership (up to 5 times less). In addition, the Dust Sentry weighs less than 13 kg, is mobile and able to run off remote power systems.

Unlike other continuous real-time dust monitors the Dust Sentry is built tough for long-term outdoor monitoring. It has: a robust enclosure with integrated solar shielding, 20 years of on-board data storage, a wide range of outputs for flexible integration, and a suite of optional environmental sensors e.g. wind, noise, weather, solar to choose from.

Now the Dust Sentry comes with two powerful software systems with no additional charge. Aeroqual Connect and Aeroqual Cloud. Connect is the instrument operating software. It opens in your browser so there is no software to install or update. With Aeroqual Cloud you can remotely access data on any device even when your instrument is offline.



Now with
FREE web-based data & diagnostics software.



Key Features

- Physical measurement of TSP, PM₁₀, PM_{2.5} or PM₁ mass fractions (not particle counting)
- Measures and reports data in 1 minute intervals with user selectable averaging
- MCERTS certified accuracy and repeatability
- On board storage for over 20 years of data
- Rugged weatherproof enclosure with solar shielding for very hot climates
- Quick set up and relocation in under 10 minutes
- Email / SMS alerts and FTP data export (optional)
- Optional plug and play environmental sensors

Applications

- Urban and national air monitoring networks
- Industrial perimeter monitoring: construction and waste sites, quarries and mines, ports and bulk handling terminals, transport hubs
- Near road: motorways, street canyons, traffic information systems
- Mobile vehicle mounted monitoring
- Short term monitoring of hot spots
- Community exposure: epidemiological studies, microenvironment, residential, schools, hospitals
- Environmental Impact Assessments

Dust Sentry Specifications

Technology	Sizes	Range	Accuracy	Flow Rate	Lower Detectable Limit (2)
Nephelometer	PM ₁ , PM _{2.5} , PM ₁₀ or TSP	0 to 2000 g/m ³	<±(2 g/m ³ + 5% of reading)	2.0 LPM	<1 g/m ³

System Specifications	
Control System	Embedded fanless PC, Intel Atom N2600, 1.6GHz, 2GB RAM, 32GB SSD, Ubuntu Linux
Communications	Standard: WIFI, Ethernet (LAN) Optional: Cellular IP GPRS modem
Software	Connect: Runs on embedded PC, accessed via web browser (IE, Firefox, Chrome, Safari) Cloud: Runs on secure cloud servers, accessed via web browser Connect / Cloud Features: configuration, diagnostics, journal, calibration and data acquisition, plus SMS and email alerts (optional), and auto data export via FTP and email (optional)
Data logging	32GB Hard Drive (>20 years data storage)
Averaging period	1 min, 5 min, 10 min, 15 min, 30 min, 1 hr, 2hr, 4 hr, 8 hr, 12 hr, 24 hr
Outputs	RS232 (legacy mode) 2 x Relay (optional) 4 x 4-20mA (optional)
Power requirements	100-260VAC (standard): 15W / 24W* Regulated 12VDC (if required): 15W / 24W*
Enclosure	Lockable IP65 GRP cabinet with integrated aluminium solar shield armour Inlet: 36cm heated inlet
Dimensions	483H x 330W x 187D mm (including solar shield armour & mounting brackets)
Weight	<13 kg*
Environmental operating range	-10°C to +50°C
Mounting	Pole, tripod and wall mounting brackets included
47mm Sample Filter (Optional)	47mm filter for particle loading analysis
Factory Integrated & Tested Sensors (Optional)	Gill WindSonic (ultrasonic wind sensor) Vaisala WXT520 (weather transmitter) Met One MSO (weather transmitter) Cirrus MK427 Class 1 (noise sensor) Novalynx Pyranometer (solar radiation)

*Configuration used for power and weight calculations: base unit, PM10 sharp cut, modem, heater off / heater on.

戶外即時懸浮微粒粉塵監測站

OUTDOOR REAL-TIME PARTICULATE MONITORING



紐西蘭 **aeroQUAL** 型號: **DUST SENTRY**

DUST SENTRY 粉塵監測站 / 懸浮微粒監測站

戶外即時懸浮微粒監測站針對需要監控及管理粉塵排放而設計，粉塵監測站是以濁度計為基礎而發展的儀器，精確即時測量 PM10、PM2.5、PM1、或 TSP，且價格實惠。

和 TEOMs、BAMs 此類缺乏短樣本週期精確度的參考當量監測器相比，粉塵監測站可提供一分鐘反應時間的精確報告且價格更低 (高達 5 倍價差)。此外，粉塵監測站堅固、可多次安裝並且可選配風力、噪音、天氣感測器以達到最大效用。

■ 特色

- 使用者可選擇至每 1 分鐘間隔來測量及記錄數據
- 可精準測量 PM10、PM2.5、PM1、TSP
- 主機記憶體可儲存達 20 年以上的偵測資料
- 可由電子郵件及行動通訊系統存取資料及警示
- 堅韌防水的外殼、可屏蔽炎熱氣候中的熱能
- 可選購天氣、風速和風向、噪音和警報器之感測器

■ 規格

測量方式：光散射濁度法

測定參數及範圍：0-2,000 $\mu\text{g}/\text{m}^3$ ；準確度： $\pm (2 \mu\text{g}/\text{m}^3 + 5\% \text{ 讀值})$

可測量質量數：PM10、PM2.5、PM1 或 TSP

流量：2.0 L/min；進氣：36 cm 加熱進氣

警示：譯碼器、電子郵件或簡訊(選配)

螢幕：四行字元顯示

資料存取：32GB SD 記憶卡(>20 年資料儲存量)

儲存週期：1、5、10、15、30 分鐘及 1、2、4、8、12、24 小時

過濾器：47 mm GFA 環流過濾(選配)

軟體：包含資料存取軟體及設定軟體

輸出：RS232、4-20 mA / 2-10 V(選配)

安裝：立桿、三角架及壁掛式

無線傳輸(選配)：包含 GPS 之 GSM/GPRS 數據機；

Orbit DATA (雲端數據存取系統)

感測器(選配)：風速和風向；溫度/RH；雨量；大氣壓力；噪音等級 1(Class 1)

操作環境範圍：-10°C to +45°C；10 to 95% RH (NC)

電源：AC 100~260 V, 15 W(標準) 或 12(+/- 2.5%)VDC

外殼：可鎖式玻璃纖維強化塑膠製；防護等級 IP65

尺寸/重量：尺寸約 W330×D187×H483 mm(包含遮陽板及安裝架)；重量：<13 kg

認證：



(MCERTS pending)

■ 用途

- 建築工地環境監測
- 道路、隧道環境監測
- 礦場、砂石場周邊環境監測
- 垃圾運輸及處理廠環境監測



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