Dust Sentry PCX

Specification Sheet

Near reference real-time particle monitor

Designed for environmental professionals who need to monitor and manage multiple outdoor dust and particle size fractions, simultaneously, in real-time.

The Dust Sentry PCX delivers simultaneous measurement of TSP, PM_{10}, PM_4, $PM_{2.5}$ and PM_1.

Benefits

- Set up and deploy in under 5 minutes - get live data flowing to your PC or mobile
- Minimize downtime and failure with a purpose-built outdoor monitor
- Eliminate flow checks with integrated flow sensing and automated control
- Reduce site visits with two-way communications that allow you to calibrate, remotely troubleshoot, upgrade software, and change settings
- Avoid invalid data caused by incorrect wind sensor orientation with a fully integrated self-orientating met sensor (optional)
- Power up with quick and easy interface to solar and battery systems
- Act swiftly before an exceedance occurs with real-time alerts

What can it measure?

- Specific dust fractions, wind, weather and noise
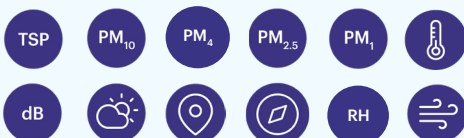
Who is it for?

- Industrial operators who need to manage dust and particulates from site activities, within regulatory or permitted limits:

  - Construction and remediation projects
  - Quarry and mine operators
  - Port and bulk handling terminals
  - Waste management sites

- Environmental consultants who want defensible data without the usual time and hassle of air monitoring projects

- Regulatory authorities who need to fill the gaps in the regulatory PM monitoring network

- EHS managers who need to demonstrate that they are providing a safe environment for the people in their care

- Researchers who want to collect accurate, scientifically robust data without the cost of a reference PM monitor

Specifications | Dust Sentry PCX

Particle module	Particle Sizes	Range	Display Resolution	LDL (2σ)	Precision	Accuracy	Zero Stability	Min. Detect. Particle Size
PCX[1] (Optical Particle Counter)	PM_1, $PM_{2.5}$, PM_4, PM_{10} and TSP	0 - 30,000 µg/m³	0.1 µg/m³	0.1 µg/m³	± 3% of reading	< 5% of reading	± 0.1 µg/m³ over 24 hour period	50% eff.: 0.3 µm

System Specifications	
Control system	Embedded PC with on board data storage (>5 years)
Communications[2]	Standard: WIFI, Ethernet (LAN) Optional modem: Cellular IP 4G LTE
Software	Talk to our sales team to learn more about Aeroqual Cloud plans.
Averaging period	1 min, 5 min, 10 min, 15 min, 20 min, 30 min, 1 hr, 2 hr, 4 hr, 8 hr, 12 hr, 24 hr
Power requirements[3]	100-260 VAC (standard): 15 to 30 W max steady state (configuration dependent)
Enclosure	Lockable IP65 GRP cabinet with integrated aluminum solar shield armor, built in temp/RH sensor
Dimensions	685 mm x 330 mm x 187 mm (27" x 13" x 7⅜") [HxWxD] Includes PM inlet, solar shield armor & mounting bracket
Weight[4]	< 13 kg (28.6 lbs)
Operating range	-10 °C to +45 °C (14 °F to 113 °F)
Mounting	Pole, tripod and wall mounting brackets included. Optional tripod mount available.
Factory integrated sensors[5]	Gill WindSonic (ultrasonic wind sensor), Vaisala WXT536 (weather transmitter), Met One MSO (weather transmitter), Cirrus MK427 Class 1 (noise sensor), Novalynx Pyranometer (solar radiation)
Compatible tested sensors	BSWA 308 (sound level meter), Met-One BC-1060 (black carbon monitor), Met-One E-BAM PLUS (Beta-Attenuation Mass Monitor) Airmar 200WX (weather station), Victron SmartSolar MMPT 100-20 (solar charge controller)

PM System Specifications	
Inlet	Omni-directional sample inlet with integrated heater
Pump	12 V brushless DC diaphragm with automated flow measurement and control system
Optics	650 nm laser OPC (optical partical counter), long life industrial grade laser diode
Technology	Auto-zero on start-up

Compliance
In conformity with EC Directives 2014/30/EU and 2014/35/EU; FCC 47 CFR Part 15; RoHS 3 (EU2015/863), REACH

[1] Representative values for $PM_{2.5}$; for individual channel performance please see the Aeroqual Technical Performance Guide
[2] 4G LTE not available in all markets
[3,4] Configuration used for power and weight calculations: base unit, PCX, modem, heater on
[5] Optional

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