AcSoft DustCube

The **AcSoft Dust Cube** offers an out-of-the-box solution for urban air quality monitoring.

Answering both the challenge of **capturing accurate data in variable climate conditions** and the need for **fine-grained air quality monitoring networks.**

The dust cube fills the need for a **particulate and gas monitor**, suitable for **roadside monitoring, environmental health** and **local authority investigations.**

What You Can Expect From The AcSoft Dust Cube:

- Alphasense optical particle counter (OPC-N3): PM1, PM2.5 and PM10

- Plus one (soon two) of the following: CO, H2S, NO, NO2, O3, SO2, VOCs or CO2

- High frequency sampling: up to one sample per two seconds

- Up to two hours operation in event of external power loss

- Enclosure designed for ultra-low RF noise and harsh climate

- Ultra low noise sensing for gases (ppb) and particulates (µg/m3)

- Support for multiple analysis techniques including any sampling rate and real-time access

- High density air quality network using low-cost, individually baselined devices

- Open source device firmware for highly customisable sensing, data delivery and analysis

- Remote diagnostics, over-the-air software update and data interpretation upgrade all available with SCS data infrastructure

Dust Cube Specifications

SENSING

- Alphasense analogue front-end (AFE) supporting up to four A4 electrochemical sensors. Additional NDIR CO_2 via a separate interface. Other combinations on request
- Ultra low-noise circuitry maximises repeatability of electrochemical sensing
- Particulate monitoring uses Alphasense OPC-N3 particle counter
- Sensirion temperature and relative humidity sensor
- Data correction refined through co-location with government reference equipment
- TDK barometric pressure sensor

COMMUNICATIONS

- Wireless: 4G cellular modem
- GPS receiver
- Wired: ethernet via waterproof RJ45 connector

DATA INFRASTRUCTURE

- Sense data messaging, control messaging and data storage using Amazon Web Services (AWS) or customer's own infrastructure
- Local microSD data storage

PLATFORM

- AM335x ARM Cortex-A8 through BeagleBone Black
- Real-time clock with battery backup. Time synchronisation is via GPS receiver, network time protocol or real-time clock, as available

GENERAL

- DC power input from 7 to 12 Volts, rechargeable backup battery (approximately two hours operation)
- Environmental range from -40 to +50 °C
- Measures 250 x 200 x 147mm
- Weight 4 kg
- Power consumption: ~4W

SvanNET

SvanNET automatic monitoring services is an online solution that offers automatic control of measurement points, data sharing with other SvanNET users as well as data preview in the form of a customised website with either public or restricted access. The preview website can be customised with a logo and individual project name. Access to the preview can be either open to the public or protected by a password.

To support dust monitoring, SvanNET provides online connection services such as a web interface, access to data files in the monitoring station and status alarms. SvanNET is an online solution which means it doesn't require software installation and is accessible through a web browser. Connection over SvanNET allows users to use a web browser on any device such as mobile phone or tablet to watch real-time measurement results, download measurement files and configure the station settings.

Increasingly we are being asked for PM10 and PM2.5, with the ability to give simultaneous measurements. This in the past has proven extremely difficult and although some systems exist, they are at extremely high costs, or they suffer with reliability issues in the field. The Dust Cube addresses all the issues by offering cost effective and robust hardware with full integration into the market leading environmental monitoring platform used by acoustic consultants and monitoring contractors all over the world.

SVANTEK UK
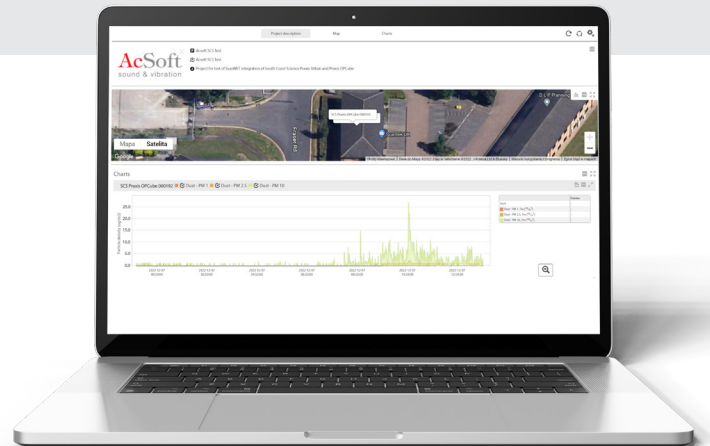
The integration of the Dust Cube into SvanNET completes the measurement to report cycle in style. the Dust Cube is giving us MCERTS PM10 and PM2.5 and also PM1! The data comes into SvanNET in an intuitive and easy to understand format. Automatic reporting is also enabled meaning you don't even have to report the data yourself to the local authority or consultants. Advanced alarms that coincide with your noise and vibration alarms can be set with a single click that offers even further protection to your site. Svan-NET is the only class 1 and MCERTS noise dust and vibration platform that fully protects your construction site.

The AcSoft Dust Cube air quality and particulate monitor using the MCERTS certified South Coast Science Praxis/URBAN.

AcSoft
Noise, Vibration & Air Quality

AcSoft DustCube

To find out more about our dust monitoring kit get in touch on:

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