

# Air Quality Monitor (Standard & Pro)

## Add-on module for Cirrus Research's Quantum Outdoor Environmental monitor

Cirrus Research has partnered with South Coast Science, experts in air quality monitoring, to offer you the best out-of-the-box solution for urban air quality monitoring.

The Praxis/OPCube answers both the challenge of capturing accurate data in variable climate conditions and the need for fine-grained air quality monitoring networks. Choose between the Standard and the Pro versions, ideal for gas and particulate monitoring for roadside monitoring, environmental health and local authority investigations. Both versions integrate with the Quantum Cloud from Cirrus Research so you can view the air quality data you need 24/7, on any device, anywhere in the world.

### Indicative air quality monitoring

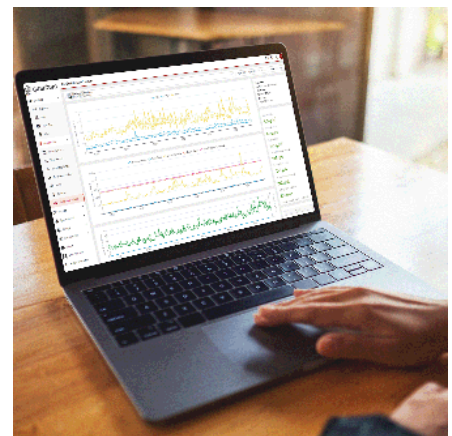
- Alphasense optical particle counter (OPC-N3): PM1, PM2.5 and PM10
- MCERTS certification for PM2.5 and PM10
- Choice of electrochemical sensors:
  - Standard: choose one of the following: CO, H<sub>2</sub>S, NO, NO<sub>2</sub>, O<sub>3</sub>, SO<sub>2</sub>, VOCs or CO<sub>2</sub>.
  - Pro choose five sensors from CO, H<sub>2</sub>S, NO, NO<sub>2</sub>, O<sub>3</sub>, SO<sub>2</sub>, and CO<sub>2</sub>.
- Temperature, humidity (T/rH) and barometric pressures (p) sensors.
- High frequency sampling: up to 30 samples a minute (Standard) or two samples per second (Pro).
- Up to one hour operation (Standard) or six hours operation (Pro) in event of external power loss.
- Enclosure designed for ultra-low noise and harsh climate.



Standard version  
(Praxis/OPCube)



Pro version  
(Praxis/Urban)



Access your data via the  
Quantum Cloud, 24/7 on any  
device

## Applications

- Construction
- Local authorities
- Transport
- Mining & exploration
- Environmental
- Infrastructure

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## Product specifications

### Sensing

- One Alphasense electrochemical sensor, or PID for VOCs, or NDIR for CO 2.
- Ultra low-noise circuitry maximises repeatability of electrochemical sensing.
- Alphasense OPC-N3 particle counter, plus approximated readings up to 40 microns.
- Sensirion temperature and relative humidity sensor.
- Data correction refined through co-location with government reference equipment.
- Variable sampling rates with a frequency up to every two seconds.

### Communications

- 4G mobile comms for real-time data delivery to the cloud.
- GPS / GLONASS receiver.

### Platform

- Runs Debian Linux operating system for robust operation and ease of integration with other sensor systems.
- SAMA5D27 CPU.
- Real-time clock with battery backup. Time synchronisation is via GPS receiver, network time protocol or real-time clock, as available.

### Data infrastructure

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

### General

- Wide DC power input from 7 to 24 Volts, lithium iron phosphate (LiFePO4) rechargeable
- backup battery ( > 1 hour operation).
- Environmental range from -40 to +50 C.
- Measures 154 x 154 x 130 mm.
- Weight 2 kg.

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