AirBox

Sensor Platform for Air Quality Monitoring

Designed to enable denser and real-time monitoring, the AirBox is a sensor-based air quality platform. It is a cost-effective, practical, and versatile complement to reference equipment such as filter packs, BAMs, and NOx monitors.

Highlights

- Online monitoring of all major air pollutants (PM1-PM2.5-PM10, NO2, O3)
- Other sensors can be interfaced (e.g. ultrafines)
- Plug and play, intuitive web interface
- Weatherproof enclosure
- Battery life <18 hours (when not connected to mains)
- Easy to mount on lamppost

Applications

- Ambient air quality monitoring
- Industrial dust emissions monitoring (construction sites, dry bulk terminals)
- Labour conditions monitoring
- Measurement campaigns

Specifications

CE

Components (measurement principle)	PM1-PM2,5-PM10 (optical) NO2 (electrochemical) O3 (metal oxide)
Other sensors	T, rH
Communication	GPRS
Positioning	GPS
Averaging period	10 minutes
Battery life	Up to 18 hours
Mounting	Lamppost
Dimensions	430 x 330 x 200 mm
Weight	12 kg
Power requirements	220 VAC
Average power consumption	20W

Field Performance Particulate Monitoring

	PM1	PM2.5	PM10
Precision	<8% RSD	<7% RSD	<11% RSD
Accuracy	n/a	28% RSD	24% RSD
Drift	n/a	n/a	0.2 µg/month
T exposure	-10 – 40 °C		
rH exposure	25% – 100%		
Data coverage	>99%		

Dust Monitoring System

The Dust Monitoring System is created by installing a network of AirBoxes around a site along with meteorological monitoring equipment. All data is fed into a dispersion model that calculates emission source(s) and rates at ten-minute intervals, distinguishing between sources on-site and off-site.