AirQube6

Near Reference Air Quality Monitor

The AirQube6 is a compact modular multi-parameter monitor designed for real-time monitoring of airborne particulate matter and up to 6 gas pollutants. Using the various sensing technologies, the modules can provide reliable measurements of $PM_{1.0}$, $PM_{2.5}$, PM_{10}, CH_4, CO, CO_2, H_2S, NH_3, NO, NO_2, O_3 and SO_2. Its small form factor and low power consumption make it suitable for indoor as well as outdoor applications.

- Multi-parameter measurement
- Near reference data
- Wide communication options
- Low consumption

The AirQube6 utilizes the smart modules and can include 1 or 2 (for increased reliability) PM sensors, each measuring $PM_{1.0}$, $PM_{2.5}$ and PM_{10}, and up to 6 gas sensors (CH_4, CO, CO_2, H_2S, NH_3, NO, NO_2, O_3, SO_2).

$PM_{1.0}$
Type: Optical particle counter
Mass concentration measurement range: 0 – 1000 µg/m³
Resolution: 1 µg/m³

$PM_{2.5}$
Type: Optical particle counter
Mass concentration measurement range: 0 – 1000 µg/m³
Resolution: 1 µg/m³

PM_4
Type: Optical particle counter
Mass concentration measurement range: 0 – 1000 µg/m³
Resolution: 1 µg/m³

PM_{10}
Type: Optical particle counter
Mass concentration measurement range: 0 – 1000 µg/m³
Resolution: 1 µg/m³

CH_4
Type: Thermopile
Measurement range: 0 – 25 000 ppm
Zero Resolution: 200 ppm

CO
Type: Electrochemical
Measurement range: 0 – 1 000 ppm
Resolution: 1 ppb

CO_2
Type: Pyroelectric
Measurement range: 0 – 5 000 ppm
Zero Resolution: 1 ppm

H_2S
Type: Electrochemical
Measurement range: 0 – 50 ppm
Resolution: 1 ppb

NH_3
Type: Electrochemical
Measurement range: 0 – 50 ppm
Resolution: 1 ppb

NO
Type: Electrochemical
Measurement range: 0 – 20 ppm
Resolution: 1 ppb

NO_2
Type: Electrochemical
Measurement range: 0 – 20 ppm
Resolution: 1 ppb

O_3
Type: Electrochemical
Measurement range: 0 – 20 ppm
Resolution: 1 ppb

SO_2
Type: Electrochemical
Measurement range: 0 – 50 ppm
Resolution: 1 ppb

Applications

- Air quality networks supplementing existing regulatory stations
- Air quality modeling
- Building automation
- Monitoring of dust emitting industrial facilities and construction sites
- Road dust monitoring and traffic management
- Fire smoke monitoring
- Smart city and IoT networks

Easy Deployment

The AirQube6 is designed with respect to the needs of the air quality networks, for road and traffic management, for monitoring dust-emitting construction sites and industrial installations as well as fire smoke. The intelligent monitor calculates the output data and provides the output via serial interface or , optionally, 4G/IoT modem. It can be coupled with the MicroStep-MIS AMS 111 data logger and transfer data to your EnviDB database or MicroStep-MIS EnviDB.Cloud / 3rd party platform. Optionally, the variant with 4G/IoT modem can establish communication on its own.

Typical configurations (custom configurations available)

	PM 1st sensor	PM 2nd sensor	CH_4	CO	CO_2	H_2S	NH_3	NO	NO_2	O_3	SO_2
Basic air quality setup	✓			✓					✓		✓
Extended setup	✓		✓	✓	✓				✓		✓
Full setup	✓	✓	Any combination of the six sensors								

Dimension and weight

Dimension	22 x 22 x 20 cm
Weight (depends on actual configuration)	sensor body < 1 kg + weight modules and batteries used

Output

Serial outputs	RS-485, SDI-12 RS-232, USB (available with 4G/IoT modem option)
Option	4G/IoT modem (SMS, FTP, http, MicroStep-MIS EnviDB protocol)
Output rate	from 60s

Electrical parameters

External power in Li-on power version	5 V to 30 V (AC/DC, PV panel)
External power in 12 V Pb accumulator power version	15 V to 30 V (AC/DC, PV panel)
Consumption in sleep mode	0.37 mW
Consumption in active mode	Depending on the configuration
Bult-in charger with MPPT algorithm	Available with 4G/IoT option

Environmental parameters

Operating temperature	processing unit –40 °C to +60 °C, depends on configuration
Operating humidity	0 to 100 % RH
Protection rating	IP 65

All specifications are subject to change without prior notice.
© MicroStep-MIS. All rights reserved.
www.microstep-mis.com