AQ Guard Smart 1100

AQ Guard Smart 1100 is a compact and cloud-enabled air quality measurement device. The system is designed for the requirements of outdoor air measurement in the smart city environment to improve granularity while maintaining high comparability to official measurements for environmental monitoring and health protection. The simultaneous measurement of pollutant gases makes the device perfect for measuring in environmentally sensitive areas, especially where they are already common or required by law.

Benefits

- Technology based on the certified Fidas® 200 series (EN 16450 and MCERTS)
- Simultaneous measurement of PM_1, $PM_{2.5}$, PM_4, PM_{10}, C_N with high temporal resolution
- Additional SO_2, CO, NO_2, O_3 measurement
- Easy and fast installation
- Data visualization via cloud MyAtmosphere
- Communication via GPRS / 3G / 4G / Ethernet / Wi-Fi, optional: LoRaWAN
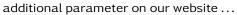- Extendable with weather station / solar protection

Case studies

- Urban air quality monitoring
- Smart city projects
- Open pit mining and landfills
- Formation and dispersion studies
- Construction sites
- Immission monitoring of industrial plants
- Measurement of dust emissions from road and rail traffic as well as ports
- Risk areas (natural and anthropogenic)

DATASHEET

Measurement range (number C_N)	0 – 20,000 particles/cm³
Size channels	64 (32/decade)
Measurement range (size)	0.175 – 20 μm
Measuring principle	Optical light scattering at single particles
Reported data	PM_1, $PM_{2.5}$, PM_4, PM_{10}, TSP, C_N, particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity, SO_2, CO, NO_2, O_3
Measurement range (mass)	0 – 100 mg/m³ (depending on the composition of the aerosol)
Measurement uncertainty	< 15 % for $PM_{2.5}$, < 20 % for PM_{10} (expanded measurement uncertainty according to EN 16450, corrected – MCERTS)
Time resolution	1 min, moving average 1 min
Light source	Long term stable LED
Power consumption	Standard operation: 1.2 A (1.7 A with additional heating)
Weight	Approx. 6 kg
Response time	< 3 s (gas sensor)
Installation conditions	-20 – +50 °C
Interfaces	USB, Ethernet (LAN), Wi-Fi, 3G/4G via Modem, optional: LoRaWAN
Protocols	ASCII, MODBUS, UDP
	additional parameter on our website . . .

Further information:
https://www.palas.de/product/aq-guard-smart1100