

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 PM₁, PM_{2.5}, PM₄, PM₁₀, TSP, C_N with high temporal resolution
- Additional SO₂, CO, NO₂, O₃ 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

APPLICATIONS

- 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

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 (number C_N)	0 – 20,000 particles/cm ³	Measurement range (size)	0.175 – 20 μm
Measurement range (mass)	0 – 100 mg/m ³ (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)
Size channels	64 (32/decade)	Time resolution	1 min, moving average 1 min
Interfaces	USB, Ethernet (LAN), Wi-Fi, 3G/4G via Modem, optional: LoRaWAN	Protocols	ASCII, MODBUS, UDP
Light source	Long term stable LED	Power supply	Supplied power supply: 12 V
Power consumption	Standard operation: 1.2 A (1.7 A with additional heating)	Installation conditions	-20 – +50 °C
Response time	< 3 s (gas sensor)	Dimensions	530 • 270 • 208 mm (H • W • D)
Weight	Approx. 6 kg	Special features	Heated inlet, mast / tripod mount
Resolution	0.01 ppm (gas sensor)	Data Management	Prepared for connection to the Palas Cloud MyAtmosphere ("MyAtmosphere-ready"); internet access and separate registration required. MyAtmosphere terms and conditions of use apply.

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