



AQ GUARD SMART 1000

AQ Guard Smart 1000 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.

BENEFITS

- Quick and easy installation
- Long-term stability (24/7) and low maintenance
- Flexibility in communication and data transmission
- Reliable measurements (near-reference standard for particles)
- Simultaneous measurement of PM₁, PM_{2.5}, PM₄, PM₁₀, TSP, C_N
- Versatile application possibilities even in demanding environments
- Suitable for high dust concentrations
- Access to data in real time and with high temporal resolution

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)

FEATURES

- On-site calibration (size resolution and volume flow)
- Communication via GPRS / 3G / 4G / Ethernet / Wi-Fi, optional: LoRaWAN
- Technology based on the certified Fidas® 200 series
- Expandable with third-party devices, metrology and sensors
- Data visualization via Palas Cloud (MyAtmosphere-ready)
- Secondary measurement data acquisition

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, optional: SO ₂ , CO, NO ₂ , O ₃
Measurement (number C _N)	range	0 – 20,000 particles/cm ³	Measurement (size)	range	0.175 – 20 µm
Measurement (mass)	range	0 – 100 mg/m ³ (depending on the composition of the aerosol)	Size channels		64 (32/decade)
Time resolution		1 min, moving average 1 min (MyAtmosphere), every second via internal protocols	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	Dimensions		530 • 270 • 208 mm (H • W • D)
Weight		Approx. 6 kg	Special features		Heated inlet, mast / tripod mount
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.			