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 PM_1, $PM_{2.5}$, PM_4, PM_{10}, TSP, C_N, CO_2
- Versatile application possibilities even in demanding environments
- Suitable for high dust concentrations
- Access to data in real time and with high temporal resolution

Features

- On-site calibration and adjustment (particle size 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

Applications

- Urban air quality monitoring
- Smart city projects
- Open pit mining and landfills
- Formation and dispersion studies
- Construction sites

Model Variations



AQ Guard Smart System with MultiGas Extension

The AQ Guard Smart System can be used as a hub. With the AQ Guard Smart Multi-Gas Extension, gases such as NO_2, O_3, or optionally CO, NO, and SO_2 can be measured.

https://www.palas.de/en/product/AQGuardSmart$_{MGE}$

DATASHEET

Measuring principle	Optical light scattering at single particles
Reported data	PM_1, $PM_{2.5}$, PM_4, PM_{10}, TSP, CN, CO_2; particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity
Measurement range (number C_N)	0 – 20,000 particles/cm³
Measurement range (size)	0.178 – 17.8 μm
Measurement range (mass)	0 – 100 mg/m^3 (depending on the composition of the aerosol)
Volume flow	1 l/min ± 1,5% (-20 - +50°C), time-of-flight volume flow control, usable up to altitudes of 5,000 m a.s.l.
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”)

NORMS AND CERTIFICATES

ISO 21501-1, MCERTS (Sira MC 220412/01)