

# 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

- 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<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>4</sub>, PM<sub>10</sub>, TSP, CN
- Additionally SO<sub>2</sub>, CO, NO<sub>2</sub>, O<sub>3</sub>
- 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

<b>Measuring principle</b>	Optical light scattering at single particles	<b>Reported data</b>	PM <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>4</sub> , PM <sub>10</sub> , TSP, C <sub>N</sub> , particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity, SO <sub>2</sub> , CO, NO <sub>2</sub> , O <sub>3</sub>
<b>Measurement (number C<sub>N</sub>)</b>	<b>range</b> 0 – 20,000 particles/cm <sup>3</sup>	<b>Measurement (size)</b>	<b>range</b> 0.175 – 20 μm
<b>Measurement (mass)</b>	<b>range</b> 0 – 100 mg/m <sup>3</sup> (depending on the composition of the aerosol)	<b>Measurement uncertainty</b>	< 15 % for PM <sub>2.5</sub> , < 20 % for PM <sub>10</sub> (expanded measurement uncertainty according to EN 16450, corrected – MCERTS)
<b>Size channels</b>	64 (32/decade)	<b>Time resolution</b>	1 min, moving average 1 min (MyAtmosphere), every second via internal protocols
<b>Interfaces</b>	USB, Ethernet (LAN), Wi-Fi, 3G/4G via Modem, optional: LoRaWAN	<b>Protocols</b>	ASCII, MODBUS, UDP
<b>Light source</b>	Long term stable LED	<b>Power supply</b>	Supplied power supply: 12 V
<b>Power consumption</b>	Standard operation: 1.2 A (1.7 A with additional heating)	<b>Installation conditions</b>	-20 – +50 °C
<b>Response time</b>	< 3 s (gas sensor)	<b>Dimensions</b>	530 • 270 • 208 mm (H • W • D)
<b>Weight</b>	Approx. 6 kg	<b>Special features</b>	Heated inlet, mast / tripod mount
<b>Resolution</b>	0.01 ppm (gas sensor)	<b>Data Management</b>	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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