AQ Guard Ambient

Compact ambient air quality monitor. Featuring Palas® aerosol spectrometer technology for precise measurement of air pollution by particulates.

Benefits

- Technology based on the type approved Fidas® 200 series (EN16450 and MCERTS); simultaneous measurement of Cn, PM1, PM2.5, PM4, PM10

- Computation of air quality index based on measurements of particulates, CO_2, and VOC

- High accuracy due to advanced algorithms

- Long term stable due to self calibration for measurement of flow rate, particulates, and gaseous pollutants

- 2 years operation without calibration; re-calibration with NIST traced test powder possible on site

- Operates on AC, DC, or power-over-Ethernet

Applications

- Industry:
  - Production processes
  - Bulk material handling (mixing, discharge, storage, packaging etc.)
  - Fenceline Monitoring

- Construction sites: Roads, railroads, demolition sites

- Buildings: Schools, kindergartens, hospitals, hotels, offices, public service buildings

- Residential buildings near construction sites or other polluted areas

- Public transportation: Airports, train stations, tramway underground stations, cruise ships, passenger cabin, e.g. in tram, train

https://www.palas.de/product/aq-guard-ambient

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Datasheet

Parameter	Description
Interfaces	USB, Ethernet, Wi-Fi, optional: UMTS
Measurement range (size)	0.175 – 20 µm
Size channels	128 (64/decade)
Measuring principle	Single particle optical light scattering with evaluation of signal duration and shape, advanced mass conversion algorithm
Measurement range (number C_N)	0 – 20,000 particles/cm³
Volume flow	1.0 l/min $\triangleq$ 0.06 m³/h
Data acquisition	Digital, 22 MHz processor, 256 raw data channels
Light source	Long term stable LED
Power consumption	< 60 W
User interface	Touchscreen 800 • 480 pixels, 5" (12,7cm)
Dimensions	240 • 320 • 190 • mm (H • W • D)
Weight	3.9 kg
Operating system	Windows 10 IoT Enterprise
Data logger storage	10 GB
Software	PDAnalyze
Response time	1 s
Aerosol conditioning	Thermal with compact IADS
Measurement range (mass)	0 – 20,000 µg/m³
Reported data	PM_1, $PM_{2.5}$, PM_4, PM_{10}, TSP, C_N, particle size distribution, pressure, temperature, relative humidity, CO_2, TVOC, Air Quality Index
Installation conditions	-20 – +50 °C, weatherproof
Linearity	0.95 – 1.05 (measured against EN16450 certified Fidas® 200)
Accuracy	R2 > 0,98 for PM2.5 and R2> 0,94 for PM10 versus EN16450-certified Fidas® 200 (15 min average, each)