

FIDAS[®] 200



The Fidas[®] System particulate matter monitor was explicitly developed for environmental regulatory monitoring. It is the market leader for continuous and simultaneous monitoring of ambient PM_{2.5} and PM₁₀ in European countries and countries close to Europe. The Fidas[®] 200 version is a 19" plug-in unit for air-conditioned monitoring stations (temperature range 5 - 40 °C). Fidas[®] 200 E has a remote sensor for easier integration into stations with existing roof penetration. Fidas[®] 200 S is designed for outdoor installation (with stainless steel weatherproof housing), whereby this does not require full air conditioning, but can be operated with an auxiliary heater. All versions are available with different weather stations and sampling tubes of different lengths.

BENEFITS

- Type-approved and certified according to latest EN requirements (EN 15267)
- Continuous and simultaneous real-time measurement of multiple PM values
- Additional information on particle number concentration and particle size distribution
- Long service life
- Low maintenance
- External check of calibration on site possible
- Intuitive and easy to operate
- Reliable function, very high data availability (> 99 %)
- Permanent monitoring of status, among others online monitoring of calibration
- No radioactive material and no consumables
- Low energy consumption

FEATURES

- On-site calibration and adjustment (particle size and volume flow)
- Light source: LED with high stability and a long lifetime
- Two pumps in parallel operation for additional operational safety due to redundancy

APPLICATIONS

- Regulatory pollution control in monitoring networks
- Ambient air monitoring campaigns
- Long-term studies
- Emission source attribution
- Emission dispersion studies (e.g. fires, volcanoes)

MODEL VARIATIONS



Fidas[®] 200 E

EN 16450 approved fine dust aerosol spectrometer for simultaneous measurement of PM_{2.5} and PM₁₀, featuring a separate sensor for existing roof glands

<https://www.palas.de/en/product/fidas200e>



Fidas[®] 200 S

EN 16450 approved fine dust aerosol spectrometer for simultaneous measurement of PM_{2.5} and PM₁₀ in weatherproof cabinet for outdoor installation

<https://www.palas.de/en/product/fidas200s>

DATASHEET

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|--|---|
| Measuring principle | Optical light scattering at single particles, 90° sideways scattering |
| Reported data | PM ₁ , PM _{2.5} , PM ₄ , PM ₁₀ , TSP, C _N , particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity |
| Measurement range (number C _N) | 0–20,000 particles/cm ³ |
| Measurement range (size) | 0.178 - 17.8 μm (additional: 0.4 - 40 μm, 1-100 μm) |
| Measurement range (mass) | 0–10,000 μg/m ³ |
| Measurement uncertainty | 9.7 % for PM _{2.5} , 7.5 % for PM ₁₀ (expanded measurement uncertainty according to EN 16450, 450, (see Qal1.de)) |
| Volume flow | 4.8 NI/min (25°C, 1013 hPa) < +/- 1% (MFC-controlled diaphragm pump) |
| Size channels | 64 (32/decade) |
| Time resolution | 1s - 24h variable adjustable |
| Interfaces | USB, Ethernet (LAN), RS-232, Wi-Fi (Dongle), digital |
| User interface | Touchscreen, 800 • 480 pixel, 7" (17.78 cm) |
| Protocols | UIDEP, UDP, ASCII, MODBUS, Bayern-Hessen |
| Data logger storage | Capacity for 2 years continuous operation at 60 s storage interval |
| Data acquisition | Max. 256 raw data channels (32 size channels/decade) |
| Light source | Polychromatic LED |
| Housing | 19", 4U (desktop and rack-mount housing) |
| Operating system | Windows 10 IoT (LTSC) |
| Power supply | 90 – 264 V, 50/60 Hz |
| Installation conditions | Operating temperature: +5–+40 °C, operating humidity: 0–100% (non-condensing) |
| Sampling head | Sigma head (non-selective passive collector) |
| Dimensions | 482 • 320 • 182 mm (W • D • H) |
| Weight | Control unit: 9.3 kg, sample head: 2.25 kg, sample tube: 4.5 kg |
| Sampling system | Drying of the aerosol by IADS (Intelligent Aerosol Drying System) |
| Noise emission | < 70 dB(A) |
| Resolution | 0.1 μg/m ³ |
| Power consumption | Normal operation: 60 W, max. 200 W |
| Data Management | Prepared for connection to the Palas Cloud MyAtmosphere ("MyAtmosphere-ready") |
| Repeatability | 3 % |

NORMS AND CERTIFICATES

VDI 4202-1, VDI 4203-3, EN 12341, EN 14907, EN 16450, EU-Äquivalenzleitfaden, EN 15267-1/-2, ISO 21501-1, LCSQA (2023)