



The Fidas® 200 E version shown here consists of a 19" plug-in unit and a remote sensor (connection length 3 m, other sizes on request) for use in air-conditioned monitoring stations (temperature range 5 - 40 °C). The remote sensor, flanged to the lower end of the aerosol sampling tube, greatly simplifies installation in stations with an existing roof penetration. Variants of the Fidas® 200 E are the basic Fidas® 200 and the Fidas® 200 S (with stainless steel weatherproof housing) designed for outdoor installation.

优势

- High flexibility for installation due to separation of sensor unit and control unit
- 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

应用领域

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

特点

- 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

技术数据

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| 测量原理 | Optical light scattering at single particles, 90° sideways scattering |
| 报告数据 | PM ₁ , PM _{2,5} , PM ₄ , PM ₁₀ , TSP, C _N , particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity |
| 测量范围(数量浓度) | 0–20.000 颗粒/cm ³ |
| 测量范围(粒径) | 0.178 - 17.8 μm (additional: 0.4 - 40 μm, 1-100 μm) |
| 测量范围(质量) | 0–10.000 μg/m ³ |
| 测量不确定性 | 9.7 % for PM _{2,5} , 7.5 % for PM ₁₀ (expanded measurement uncertainty according to EN 16450, 450, (see Qa1.de)) |
| 体积流量 | 4.8 l/min (25°C, 1013 hPa) < +/- 1% (MFC-controlled diaphragm pump) |
| Size channels | 64 (32/decade) |
| Time resolution | 1s - 24h variable adjustable |
| 接口 | 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 |
| 外壳 | 19", 4U (desktop and rack-mount housing) - Separate sensor |
| Operating system | Windows 10 IoT (LTSC) |
| 电源 | 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 | Control unit: 450 • 320 • 180,5 mm (H • W • D) (19"), external sensor: 240 • 180 • 120 mm (H • W • D) (19") |
| 重量 | 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 % |

标准和证书

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