



Fidas® Smart 100 is the most advanced compact measuring instrument for ambient air quality. It continuously and reliably analyzes airborne fine dust particles in the size range of 0.18 – 18 μm . The Fidas® Smart is approved by TÜV for PM_{2.5} and PM₁₀ for official measurements.

In addition to the fine dust fraction relevant for regulatory immission control, Fidas® Smart 100 simultaneously calculates and stores PM₁, PM₄, total dust, particle number concentration, and their particle size distribution, including pressure, temperature, humidity, CO₂, and carbon-based PM fractions (PM_x_CE).

优势

- Technology based on the certified Fidas® 200 series (EN16450 and MCERTS); simultaneous measurement of C_n, PM₁, PM_{2.5}, PM₄, PM₁₀
- High accuracy due to advanced algorithms
- Long-term stable: up to 2 years of operation without calibration possible.
- On-site calibration with test dust (NIST traceable) is possible
- Operation with AC or DC power source
- Long-life blower for sample airflow
- Regulated aerosol heating to avoid condensation

特点

- Smallest and lightest EN 16450-certified device on the market
- On-site calibration and adjustment (particle size and volume flow)
- Installation and operation directly outdoors without air conditioning
- Data visualization via Palas Cloud ("MyAtmosphere-ready")
- Measurement data acquisition per second
- E-version also available with extendable sampling tube for installation in a measuring container

应用领域

- Regulatory environmental monitoring
- Construction sites
- Networks with roads, railways, and ports
- Smart City
- Occupational safety

MODEL VARIATIONS



Fidas® Smart 100 E

Fine dust measuring device for existing roof openings for measuring PM_{2.5} and PM₁₀ (EN 16450-certified) and other parameters such as PM₁, PM₄, TSP

<https://www.palas.de/zh/product/fidasmart100e>

技术数据

测量原理	Optical light scattering at single particles
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, CO ₂ , Air Quality Index, source indication (depending on configuration)
测量范围(数量浓度)	0 – 20,000 particles/cm ³
测量范围(粒径)	0.18–18 µm (certified range, other measuring ranges on request)
测量范围(质量)	0 – 20,000 µg/m ³
测量不确定性	9.0 % for PM _{2.5} , 9.7 % for PM ₁₀ (expanded measurement uncertainty according to EN 16450, TÜV Report)
体积流量	1 l/min $\hat{=}$ 0.06 m ³ /h
Size channels	64 (32/decade)
Time resolution	1 s – 24 h
接口	USB, Ethernet (LAN), Wi-Fi, 4G (optional via LTE stick)
User interface	Touchscreen 800 • 480 Pixel, 5" (12,7 cm)
Protocols	UDP, ASCII, Modbus
Data logger storage	10 GB
软件	PDAnalyze
Data acquisition	Digital, 22 MHz processor, 256 raw data channels
Light source	Long term stable LED
外壳	Polymer housing with weather protection and tripod/wall/pole mount option
Operating system	Windows 10 IoT Enterprise
电源	115 – 230 V, 50/60 Hz
Power consumption	Normal operation: 15 W, max. 60 W
Installation conditions	-20 – +50 °C (weatherproof)
Response time	< 2 s
Dimensions	240 • 320 • 190 mm (H • W • D)
重量	3.9 kg
Sampling system	Drying of the aerosol by compact IADS (Intelligent Aerosol Drying System) - Version E: extended inlet for installation in measuring containers
Noise emission	< 40 dB(A)
Resolution	0.1 µg/m ³
Power consumption	Normal operation: 15 W, max. 60 W
Data Management	Prepared for connection to the Palas Cloud MyAtmosphere ("MyAtmosphere-ready"); Internet access and separate registration required. The MyAtmosphere terms of use apply.

标准和证书

ISO 21501-1