FIDAS® SMART 100

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 PM_{10} for official measurements.

In addition to the fine dust fraction relevant for regulatory immission control, Fidas® Smart 100 simultaneously calculates and stores PM_1, PM_4, total dust, particle number concentration, and their particle size distribution, including pressure, temperature, humidity, CO_2, and carbon-based PM fractions (PMx_CE).

优势

- Technology based on the certified Fidas® 200 series (EN16450 and MCERTS); simultaneous measurement of C_n, PM_1, $PM_{2.5}$, PM_4, PM_{10}
- 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 PM_{10} (EN 16450-certified) and other parameters such as PM_1, PM_4, 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/cm³	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/m³	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 ≙ 0.06 m³/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

additional parameter on our website …

标准和证书

ISO 21501-1