



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).

BENEFITS

- 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

FEATURES

- Smallest and lightest EN 16450-certified device on the market
- On-site calibration and correction (size resolution 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

APPLICATIONS

- 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/product/fidasmart100e>

DATASHEET

Measuring principle		Optical light scattering at single particles	Reported data		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)
Measurement (number C _N)	range	0 – 20,000 particles/cm ³	Measurement (size)	range	0.18–18 µm (certified range, other measuring ranges on request)
Measurement (mass)	range	0 – 20,000 µg/m ³	Measurement uncertainty		9.0 % for PM _{2.5} , 9.7 % for PM ₁₀ (expanded measurement uncertainty according to EN 16450, TÜV Report)
Volume flow		1 l/min $\hat{=}$ 0.06 m ³ /h	Size channels		64 (32/decade)
Time resolution		1 s – 24 h	Interfaces		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	Software		PDAnalyze
Data acquisition		Digital, 22 MHz processor, 256 raw data channels	Light source		Long term stable LED
Housing		Polymer housing with weather protection and tripod/wall/pole mount option	Operating system		Windows 10 IoT Enterprise
Power supply		115 – 230 V, 50/60 Hz	Power consumption		Normal operation: 15 W, max. 60 W

additional parameter on our website ...