



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 0.175 – 20 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, carbon-based PM fractions (PM_x_CE) and TVOC (total volatile organic components).

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 due to self-calibration; up to 2 years of operation without calibration possible.
- On-site recalibration 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

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/fidas-smart100e>

DATASHEET

Measuring principle	Optical light scattering at single particles	Reported data	PM1, PM2.5, PM4, PM10, TSP, CN, particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity, CO2, TVOC, 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 ...