



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  $\mu\text{m}$ . The Fidas® Smart is approved by TÜV for PM<sub>2.5</sub> and PM<sub>10</sub> for official measurements.

In addition to the fine dust fraction relevant for regulatory immission control, Fidas® Smart 100 simultaneously calculates and stores PM<sub>1</sub>, PM<sub>4</sub>, total dust, particle number concentration, and their particle size distribution, including pressure, temperature, humidity, CO<sub>2</sub>, and carbon-based PM fractions (PM<sub>x</sub>\_CE).

## BENEFITS

- Technology based on the certified Fidas® 200 series (EN16450 and MCERTS); simultaneous measurement of C<sub>n</sub>, PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>4</sub>, PM<sub>10</sub>
- 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<sub>2.5</sub> and PM<sub>10</sub> (EN 16450 certified) and other parameters such as PM<sub>1</sub>, PM<sub>4</sub>, TSP

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

## DATASHEET

<b>Measuring principle</b>	Optical light scattering at single particles	<b>Reported data</b>	PM <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>4</sub> , PM <sub>10</sub> , TSP, C <sub>N</sub> , particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity, CO <sub>2</sub> , Air Quality Index, source indication (depending on configuration)
<b>Measurement (number C<sub>N</sub>)</b>	<b>range</b> 0 – 20,000 particles/cm <sup>3</sup>	<b>Measurement (size)</b>	<b>range</b> 0.18–18 μm (certified range, other measuring ranges on request)
<b>Measurement (mass)</b>	<b>range</b> 0 – 20,000 μg/m <sup>3</sup>	<b>Measurement uncertainty</b>	9.0 % for PM <sub>2.5</sub> , 9.7 % for PM <sub>10</sub> (expanded measurement uncertainty according to EN 16450, TÜV Report)
<b>Volume flow</b>	1 l/min $\hat{=}$ 0.06 m <sup>3</sup> /h	<b>Size channels</b>	64 (32/decade)
<b>Time resolution</b>	1 s – 24 h	<b>Interfaces</b>	USB, Ethernet (LAN), Wi-Fi, 4G (optional via LTE stick)
<b>User interface</b>	Touchscreen 800 • 480 Pixel, 5" (12,7 cm)	<b>Protocols</b>	UDP, ASCII, Modbus
<b>Data logger storage</b>	10 GB	<b>Software</b>	PDAnalyze
<b>Data acquisition</b>	Digital, 22 MHz processor, 256 raw data channels	<b>Light source</b>	Long term stable LED
<b>Housing</b>	Polymer housing with weather protection and tripod/wall/pole mount option	<b>Operating system</b>	Windows 10 IoT Enterprise
<b>Power supply</b>	115 – 230 V, 50/60 Hz	<b>Power consumption</b>	Normal operation: 15 W, max. 60 W

additional parameter on our website ...