

# FIDAS® SMART 100 E



Due to its extended and TÜV-approved inlet, the Fidas® Smart 100 E is ideal for retrofitting in existing measurement containers - supplementary for individual fractions ( $PM_{2.5}$  or  $PM_{10}$  only) or as a replacement for existing systems.

## OPERATION PRINCIPLE

## BENEFITS

- Extended inlet for installation in existing measuring containers
- 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 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

## DATASHEET

Measuring principle	Optical light scattering at single particles
Reported data	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
Measurement range (number C <sub>N</sub> )	0 – 20,000 particles/cm <sup>3</sup>
Measurement range (size)	0.18 – 18 μm (certified range, other measuring ranges on request)
Measurement range (mass)	0 – 20,000 μg/m <sup>3</sup>
Measurement uncertainty	9.0 % for PM <sub>2.5</sub> , 9.7 % for PM <sub>10</sub> (expanded measurement uncertainty according to EN 16450, TÜV Report)
Volume flow	1 l/min $\hat{=}$ 0.06 m <sup>3</sup> /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
Installation conditions	-20 – +50 °C (weatherproof)
Response time	< 2 s
Dimensions	240 • 320 • 190 mm (H • W • D)
Weight	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 <sup>3</sup>
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. MyAtmosphere terms and conditions of use apply.

## APPLICATIONS

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



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