

# FIDAS® 200 E



The Fidas® 200 E version shown here consists of a 19" plug-in unit and a remote sensor (connection length 3 m, other sizes on request) for use in air-conditioned monitoring stations (temperature range 5 - 40 °C). The remote sensor, flanged to the lower end of the aerosol sampling tube, greatly simplifies installation in stations with an existing roof penetration. Variants of the Fidas® 200 E are the basic Fidas® 200 and the Fidas® 200 S (with stainless steel weatherproof housing) designed for outdoor installation.

## OPERATION PRINCIPLE

## BENEFITS

- Type-approved and certified according to latest EN requirements (EN 15267)
- High flexibility for installation due to separation of sensor unit and control unit
- Continuous and simultaneous real-time measurement of multiple PM values
- Additional information on particle number concentration and particle size distribution
- Light source: LED with high stability and long lifetime
- Long service life
- Low maintenance
- External check of calibration on site possible
- Intuitive and easy to operate
- Reliable function, very high data availability (> 99 %)
- 2 pumps in parallel operation for additional operational safety due to redundancy
- Permanent monitoring of status, among others online monitoring of calibration
- Remote monitoring, maintenance and control easily possible
- No radioactive material
- No consumables
- Low energy consumption

## DATASHEET

Measurement range (number $C_N$ )	0 – 20,000 particles/cm <sup>3</sup>
Size channels	64 (32/decade)
Measurement range (size)	0.18 – 18 $\mu\text{m}$ (certified range, other measuring ranges on request)
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, $C_N$ , particle size distribution, ambient pressure, ambient temperature, rel. ambient humidity
Measurement range (mass)	0 – 10,000 $\mu\text{g}/\text{m}^3$
Measurement uncertainty	9.7 % for PM <sub>2.5</sub> , 7.5 % for PM <sub>10</sub> (expanded measurement uncertainty according to EN 16450, TÜV Report)
Volume flow	4.8 l/min $\hat{=}$ 0.3 m <sup>3</sup> /h $\pm$ 3% (24h), compliant with EN 16450
Time resolution	1 s – 24 h
Data acquisition	Digital, 20 MHz processor, 256 raw data channels
Light source	Long term stable LED
User interface	Touchscreen, 800 • 480 pixel, 7" (17.78 cm)
Housing	Table housing, optional: with mounting brackets for rack-mounting (control unit)
Weight	Control unit: 9.3 kg, sample head: 2.25 kg, sample tube: 4.5 kg
Operating system	Windows 10 IoT Enterprise
Data logger storage	Capacity for 2 years continuous operation at 60 s storage interval
Software	PDAnalyze
Response time	< 2 s
Installation conditions	+5 – +40 °C
Interfaces	USB, Ethernet (LAN), RS-232, Wi-Fi
Protocols	UIDEP, UDP, ASCII, MODBUS, Bayern-Hessen
Power supply	115 – 230 V, 50/60 Hz
Sampling head	Passive collector Sigma-2
Dimensions	Control unit: 450 • 320 • 180,5 mm (H • W • D) (19"), external sensor: 240 • 180 • 120 mm (H • W • D) (19")
Sampling system	Drying of the aerosol by IADS (Intelligent Aerosol Drying System)
Noise emission	< 70 dB(A)
Fuse	T2A
Resolution	0.1 $\mu\text{g}/\text{m}^3$
Power consumption	Normal operation: 60 W, max. 200 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.

## CASE STUDIES

- Regulatory pollution control in monitoring networks
- Ambient air monitoring campaigns
- Long-term studies
- Emission source attribution
- Emission dispersion studies (e.g. fires, volcanoes)



Mehr Informationen:  
<https://www.palas.de/product/fidas200e>