# FIDAS® 200 E





The Fidas<sup>®</sup> 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<sup>®</sup> 200 E are the basic Fidas<sup>®</sup> 200 and the Fidas<sup>®</sup> 200 S (with stainless steel weatherproof housing) designed for outdoor installation.

## **OPERATION PRINCIPLE**



#### **BENEFITS**

- High flexibility for installation due to separation of sensor unit and control unit
- Type-approved and certified according to latest EN requirements (EN 15267)
- Continuous and simultaneous real-time measurement of multiple PM values
- Additional information on particle number concentration and particle size distribution
- Long service life
- Low maintenance
- External check of calibration on site possible
- Intuitive and easy to operate
- Reliable function, very high data availability (> 99 %)
- Permanent monitoring of status, among others online monitoring of calibration
- No radioactive material and no consumables
- Low energy consumption

# **NORMS AND CERTIFICATES**

VDI 4202-1, VDI 4203-3, EN 12341, EN 14907, EN 16450, EU-Äquivalenzleitfaden, EN 15267-1/-2, ISO 21501-1, LCSQA (2023)



#### **DATASHEET**

Measuring principle Optical light scattering at single particles, 90° sideways scattering

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  $C_N$ ) 0–20,000 particles/cm<sup>3</sup>

Measurement range (size) 0.178 - 17.8  $\mu$ m (additional: 0.4 - 40 $\mu$ m, 1-100 $\mu$ m)

Measurement range (mass)  $0-10,000 \mu g/m^3$ 

Measurement uncertainty 9.7 % for PM<sub>2.5</sub>, 7.5 % for PM<sub>10</sub>(expanded measurement uncertainty accord-

ing to EN 16450, 450, (see Qal1.de))

Volume flow  $4.8 \text{ Nl/min} (25^{\circ}\text{C}, 1013 \text{ hPa}) < +/-1\% (MFC-controlled diaphragm pump)$ 

Size channels 64 (32/decade)

Time resolution 1s - 24h variable adjustable

Interfaces USB, Ethernet (LAN), RS-232, Wi-Fi (Dongle), digital

User interface Touchscreen, 800 • 480 pixel, 7" (17.78 cm)
Protocols UIDEP, UDP, ASCII, MODBUS, Bayern-Hessen

Data logger storage Capacity for 2 years continuous operation at 60 s storage interval

Data acquisition Max. 256 raw data channels (32 size channels/decade)

Light source Polychromatic LED

Housing 19", 4U (desktop and rack-mount housing) - Separate sensor

Operating system Windows 10 IoT (LTSA)

Power supply 115 – 230 V, 50/60 Hz

Installation conditions Operating temperature: +5-+40 °C, operating humidity: 0-100% (non-

condensing

Sampling head Sigma head (non-selective passive collector)

Dimensions Control unit: 450 • 320 • 180,5 mm (H • W • D) (19"), external sensor: 240 •

180 • 120 mm (H • W • D) (19")

Weight Control unit: 9.3 kg, sample head: 2.25 kg, sample tube: 4.5 kg
Sampling system Drying of the aerosol by IADS (Intelligent Aerosol Drying System)

Noise emission < 70 dB(A)Resolution  $0.1 \mu\text{g/m}^3$ 

Power consumption Normal operation: 60 W, max. 200 W

Data Management Prepared for connection to the Palas Cloud MyAtmosphere ("MyAtmosphere-

ready")

Repeatability 3 %



### **APPLICATIONS**

- 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/en/product/fidas200e