



The fine dust measurement device Fidas® Frog allows for a fast, reliable, and quality-assured determination of fine dust, e.g., monitoring within the scope of Health, Safety, and Environment (HSE) management at workplaces (exposure assessment) or in the range of indoor air quality measurements. It simultaneously measures the environmentally relevant mass fractions PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>4</sub>, PM<sub>10</sub>, and TSP, as well as the particle number and the particle size distribution within the particle size range of 0.18 – 93 µm. The very compact and light design as a portable hand-held monitor with either battery or mains power operation and the operation time of up to 8 hours per battery charge allow for a flexible application at any measurement sites.

## BENEFITS

- Continuous and simultaneous real-time measurement of PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TSP-values, particle number concentration and size distribution
- Adjustable time resolution from 1 s
- Direct comparison of different measurements
- Configuration of limit values possible
- Separation of the measuring device and the Tablet-PC for control (communication via WLAN)
- Ergonomic design and low weight
- Intuitive and simple operation
- Integrated camera for documentation of the measurement
- Export function for measured data in various formats
- Remote monitoring and control via network integration easily possible

## APPLICATIONS

- Fine dust monitoring at alternating locations or in movement
- Air quality monitoring indoors, at the workplace, or inside vehicles
- Use as an aerosol spectrometer in setups where space is limited

## FEATURES

- On-site calibration and adjustment (particle size and volume flow)
- Up to eight hours of measurement time in battery mode
- Detachable tablet, connected via WLAN
- Firmware can also be installed on PC
- Extended measuring range up to 93 µm

## 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
Measurement range (number C <sub>N</sub> )	0 – 20,000 particles/cm <sup>3</sup>	Measurement range (size)	0.18 – 93 µm (2 measurement ranges)
Measurement range (mass)	0 – 100 mg/m <sup>3</sup> (depending on the composition of the aerosol)	Volume flow	1.4 l/min
Size channels	32/decade, 256 raw data channels	Interfaces	USB, Ethernet (LAN) by USB-adaptor, Wi-Fi access point
User interface	Touchscreen, 1,280 • 800 pixel, 8" (20.32 cm)	Data logger storage	Approx. 16 GB (extendable by micro-SD)
Data acquisition	Digital, 20 MHz processor, 256 raw data channels	Light source	LED
Gehäuse	Synthetic housing	Operating system	Windows 10
Power consumption	13 W	Installation conditions	0 – +40 °C
Battery operation	Li-ion batteries, non-removable, base unit: 77 Wh (14.8 V; 5,200 mAh), 8 cells tablet: 20 Wh (3.8 V; 5,200 mAh), 2 cells	Dimensions	100 • 240 • 150 mm (H • W • D)
Weight	Approx. 2.1 kg (operating panel: 0.4 kg, measuring unit: 1.7 kg)		

## NORMS AND CERTIFICATES

EN 481:1993, ISO 21501-1