Optical sensor for continuous, simultaneous measurement and monitoring of fine dust contents PM10 and PM2.5 indoor and outdoor

**SCHEMATIC DESIGN**

A  Sensor module for measurement of PM10  
B  Sensor module for measurement of PM2.5

1  Measuring sensor  
2  Reference sensor  
3  Pre-separator  
4  Residual dust reservoir  
5  Fan

**YOUR BENEFITS AT A GLANCE**

- simultaneous real-time measurement of PM10/TSP and PM2.5
- patented electrostatic precipitator for zero point setting
- robust design
- active suction
- long-term stability
- cross linking of several FDS 17
- network-compatible, WLAN
- easy installation without special tool
- low operational costs

**PRECONDITIONS ON SITE**

- ambient temperature: -20...+50 °C
- relative humidity: 0...95%
- place with representative dust loading
- protection against draught
- no direct solar radiation
- location free of percussion
- power supply
- signal connection (Modbus / mA / WLAN)
TECHNICAL DATA

Housing: compact sensor housing made of aluminium; IP33
Dimensions: 200 mm × 313 mm × 121 mm (w × h × d)
Weight: approx. 4 kg
Ambient temperature: -20...+50 °C
Relative humidity: 0...95%
Measuring method: scattered light measurement
Average dust contents: up to 500 μg/m³ (max. 2000 μg/m³)
Detection limit: 2 μg/m³
Flow: 2 l/min
Sensors: 2x sensor module with two optical sensors for each; separated control and signal evaluation
Zero point setting: automatic by internal electrostatic precipitator with high voltage module, approx. 10 kV; interval 2-8 h
Fan: for flow enforcement
Heating: for conditioning of measuring gas (compliance with the dew-point spread), integrated over temperature protection
Interface: RS485 (Modbus)
Clip contacts: max. 0.5 mm; power supply connection: max. 2.5 mm
Power supply: 100-240 V AC, 0.7 A, 50-60 Hz (optional 12-24 V DC, 2.1 A); pre-fuse min. 5 A
Optional:
- 4...20 mA current loop
- WLAN module

Special models are possible on request.