



The new light-scattering aerosol spectrometer Promo[®] LED 2000 can be equipped with different sensors for particle size analysis and concentration determination from 0.145 to 100 μm can be fitted with different sensors. The heart of the optical sensors is the new LED technology with an extra-long lifetime at the highest stability in particle sizing and counting applications.

OPERATION PRINCIPLE

HIGH-RESOLUTION LED AEROSOL SPECTROMETER

Sensors with different measurement volumes can be connected to Promo[®] LED 2000 via signal cables and interchanged as required. These sensors allow reliable measurement in the concentration range from $< 1 \text{ particle}/\text{cm}^3$ to $10^6 \text{ particles}/\text{cm}^3$ in gases.

Measurements are performed continuously with Promo[®] LED 2000 as a standalone measuring device (i.e., without an external computer). All incoming data can be stored with a maximum temporal resolution of 1 s. Promo[®] LED 2000 can therefore measure and save data over weeks independently. The unit can also be integrated into a company network for data transfer.

A touch display ensures user-friendly operation. Measurements can be started quickly, and all data, such as the current number distribution, number concentration, and 24 further statistical values, can be evaluated and displayed in real time.

Promo[®] LED 2000 has a standard interface and can be controlled by a process control system or a simple Labview program. For this reason, Promo[®] LED 2000 is especially well suited for control and monitoring applications.

The following special features guarantee high classification accuracy and high particle size resolution:

- Polychromatic light and 90° light-scattering detection \Rightarrow Unambiguous calibration curve
- Patented T-aperture \Rightarrow No border zone error
- New digital individual signal processing \Rightarrow Coincidence detection and correction of the individual signal making it possible to measure higher concentrations

BENEFITS

- Self-explanatory operation
- Quick and highly resolved measurement of particle size distribution
- Long lifetime on lamp due to new LED-Technology
- Large measurement range from 0.145 up to 100 μm
- Photometer mode for measurements according to DIN EN 13274-7

NORMS AND CERTIFICATES

EN 13274-7

DATASHEET

| | |
|-----------------------------------|---|
| Measuring principle | Optical light scattering with integrating photometer |
| Measurement range (number C_N) | $< 1 \cdot 10^6$ particles/cm ³ |
| Measurement range (size) | 0.145 – 100 μ m |
| Volume flow | 5 l/min |
| Size channels | Max. 64 (32/decade) |
| Interfaces | USB, Ethernet (LAN), Wi-Fi, RS-232/485 |
| User interface | Touchscreen, 800 • 480 pixel, 7" (17.78 cm) |
| Data logger storage | 4 GB Compact Flash |
| Software | PDAnalyze |
| Data acquisition | Digital, 20 MHz processor, 256 raw data channels |
| Light source | LED |
| Support options | Direct remote access, Palas webserver service |
| Operating system | Windows 10 IoT (LTSC) |
| Power consumption | Approx. 200 W |
| Installation conditions | +5 – +40 °C (control unit) |
| Pressure | -100 – +50 mbar |
| Dimensions | 185 • 483 • 313 mm (H • W • D) (19"), external sensor: 240 • 180 • 120 mm (H • W • D) (19") |
| Weight | Control unit: approx. 8.2 kg, sensor: approx. 3.2 kg |

APPLICATIONS

- Process monitoring of particle size and concentration
- Measurement of penetration of face masks
- Measurement of fractional efficiency of particle size



Mehr Informationen:
<https://www.palas.de/en/product/promoled2000>