PROMO® SINGLE

The Promo® Single is a scattered-light aerosol spectrometer for continuous particle size and concentration measurement. Sensors with different measurement volumes can be easily connected via optical fibers and interchanged as needed. Depending on the application, sensors with a heatable cuvette up to +250 °C and pressure-resistant versions up to 14 bar overpressure are available.

Central to the measurement performance is a white-light LED light source. The compact 19-inch rack-mount enclosure, with its reduced depth and lower weight, allows for flexible integration into existing systems and test benches. The Promo® Single is designed for 24/7 continuous operation and can be integrated into higher-level process control systems via interfaces such as Modbus.

BENEFITS

- Durable, robust, and energy-efficient thanks to LED technology
- 24/7 continuous operation
- Very high size resolution
- Concentration range from < 1 particle/cm³ to 10 particles/cm³
- Calibration curves for different refractive indices
- Very high and reproducible counting efficiency starting at 0.2 µm
- Fiber-optic technology
- Calibration and cleaning can be performed by the customer

APPLICATIONS

- Filter Testing and Separation
- Process Monitoring and Quality Control
- Environmental and Occupational Safety
- Research and Development

FEATURES

- Up to four measuring ranges: 0.2 µm–10 µm | 0.3 µm–17 µm | 0.6 µm–40 µm | 2 µm–100 µm
- Clear calibration curve thanks to white light source with 90° stray light detection
- Patented T-aperture: No edge zone error, coincidence detection and correction on the individual signal
- Selectable sensors for optimized measurementregarding concentration
- Compatible with common industrial communication protocols for seamless process integration

DATASHEET

Measuring principle	Optical light-scattering
Measurement range (number C_N)	$< 1 \cdot 10^6$ particles/cm^3
Measurement range (size)	0,2–10 μm, 0,3–17 μm, 0,6–40 μm, 2–100 μm
Volume flow	5 l/min
Size channels	Max. 128 (64/decade)
Time resolution	1 s
Interfaces	USB, Ethernet (LAN), RS-232/485
User interface	Touchscreen, 7″ (17,78 cm)
Protocols	UDP, ASCII, Modbus
Software	FTControl, PDAnalyze
Light source	White LED light source
Housing	Table housing with mounting bracket for rack installation
Support options	Direct Remote Access
Operating system	Windows 10 IoT (LTSC)
Power supply	115–230 V, 50/60 Hz
Power consumption	Max. 100 W
Installation conditions	+5–+40 °C (control unit)
Dimensions	185 • 485 • 295 mm (H • W • D) (19″)
Weight	Control unit: approx. 8.5 kg, sensor: approx. 2.1 kg

PROMO® AEROSOL SENSORS

temperature -20 °C–+60 °C

PROMO® AEROSOL SENSOR 2070
$d_p \approx 0.2–40$ µm
$C_{N\,max} \approx 10^6$ particles/cm^3

PROMO® AEROSOL SENSOR 2100
$d_p \approx 0.2–40$ µm
$C_{N\,max} \approx 5 * 10^5$ particles/cm^3

PROMO® AEROSOL SENSOR 2300
$d_p \approx 0.2–105$ µm
$C_{N\,max} \approx 4 * 10^4$ particles/cm^3

PROMO® AEROSOL SENSOR 2500
$d_p \approx 0.3–105$ µm
$C_{N\,max} \approx 4 * 10^3$ particles/cm^3

PROMO® AEROSOL SENSOR 2XX0 P
pressure resistant < 14 bar overpressure,
process temperature -20 °C–+150 °C

PROMO® AEROSOL SENSOR 2XX0 HP
pressure resistant < 14 bar overpressure,
T ≤ +250 °C,
process temperature -20 °C–+250 °C