BEMS 3000



In Europe, motor vehicles (light-duty vehicles) will in the future be tested for braking emissions in the WLTP cycle. The basis for this is the directive ECE/TRANS/WP.29/GRPE/2023/4, in short, UN GTR. The particle sizes in brake emissions are in the nanoparticle range of up to about 10 μm in concentrations of up to $2x10^6$ particles/cm³. Therefore, emissions in this size range are tested for TPN (Total Particle Number, solid and volatile) and SPN (Solid Particle Number, solid particles only, in particles/cm³). The $PM_{2.5}$ and PM_{10} values (in $\mu g/m^3$) are also considered.

This device is sold via our partner Link.[1]

Benefits

- Compliance with the new regulations ECE/TRANS/WP.29/GRPE/2023/4
- Integrated flow rate measurement and zero count rate verification
- Measurement paths also available separately for TPN or SPN only
- Monitoring of all data relevant to operation
- Robust, compact design
- Expandable with BEMS 4000 for time-resolved measurement of $PM_{2.5}$, PM_{10}, TSP, and particle size distribution.

Applications

- Measurement of brake dust emissions according to UNGTR
- Measurement of the number concentration up to 2.5 μm in other applications such as tire wear measurement

[1] Link Website: https://www.linkeng.com/product/model-4222-brake-emissions-particle-measuring-system/

DATASHEET

Measuring principle	Condensation particle counter
Measurement range (size)	10–2,500 nm
Maximum particle number concentration	0.1–1,000,000 particles/cm³, single-count mode including 1:100 dilution, photometric -10^8
Volume flow	2*5 l/min (aerosol)
Volume flow (clean air)	180 l/min
Interfaces	Ethernet (LAN)
Protocols	RJ45 / TCP/IP
Power supply	100/230 V, 50/60 Hz
Power consumption	Max. 600 W
Installation conditions	Temperature range: +15°C–25°C; humidity: 85%; air pressure: 850–1,050 mbar absolute
Compressed air supply	4–8 bar, required compressed air quality per ISO 8573-1:2010, Class 1:4:1
Dilution factor	1:10 / 1:10
Dimensions	1,090 • 779 • 684 mm (H • W • D)
Weight	Approx. 135 kg

NORMS AND CERTIFICATES

ECE/TRANS/WP.29/GRPE/2023/4