ENVI-CPC 100

The ENVI-CPC 100 is a butanol-based particle counter with high efficiency for monitoring ultrafine particle (UFP) concentrations in the ambient air. The Model 100 is designed for typical concentrations of up to 10^5 particles/cm^3. It is part of our modular nanoparticle measurement system. It can be combined with different systems for measuring the size distribution and concentration of UFP. T he patented evaporator and condensation module is maintenance-free. This allows continuous operating times of up to one year without maintenance and cleaning.

The system meets the requirements of the current standard EN 16976:2024 (Harmonized measurement of number concentrations using CPC) in all areas. It can be operated directly with a NAFION® based sampling system if desired. The pumps required for this are already integrated.

Benefits

- The unique, patented way of providing the working fluid for unattended operation for months
- Intuitive user interface with sophisticated software for data evaluation
- Limitless, integrated network connectivity that supports remote operation and data storage on the internet
- Powerful software package
- Low maintenance

Applications

- Aerosol Research
- Environmental measurements
- Environmental monitoring measurement networks
- Workplace safety and occupational exposure studies
- Traffic emission monitoring
- Health studies
- Mobile aerosol studies

Features

- Expandable to U-SMPS spectrometer
- Automatic measurement data storage
- Measurement of the particle size distribution of condensed particles for quality assurance
- Integrated pump
- External butanol reservoir with low-level alarm (1 L standard, other sizes available upon request)

DATASHEET

Measuring principle	Condensation of ultrafine particles with optical measurement of concentrations
Measurement range (number C_N)	10^5 particles/cm^3 (single count mode)
Measurement range (size)	Approx. 5μm
Volume flow	0.9 l/min +/- 2% (optional 0.5 l/min additional) (pressure loss isotherme capillary)
Time resolution	1s - 60s
Interfaces	USB, Ethernet (LAN), weather station/butanol level sensor, RS-232, T/rH sensor
User interface	Touchscreen, 800 • 480 pixel, 7″ (17.78 cm)
Protocols	UDP, UIDEP, B/H, MODBUS TCP/RTU, ASCII TCP/Seriell
Data logger storage	Approx. 6 GB data storage (2 years)
Software	PDAnalyze
Detection efficiency (at low particle size)	D50 = 10 ± 1 nm (others on request); D90 < 20 nm, D95 @ 40 nm ± 10 nm, D90 @ 1000 nm ± 100 nm
Data acquisition	Digital, 20 MHz processor, 256 raw data channels
Light source	Long term stable LED
Housing	Tabletop device
Power supply	115 – 230 V, 50/60 Hz
Power consumption	Average power consumption: 40 W
Installation conditions	+10 – +30 °C (others on request)
Accuracy	5% (single count mode), 10% (nephelometric mode)
Response time	t_{90} < 3 s
Working fluid	n-Butanol (>99.5%)
Dimensions	330 • 380 • 240 mm (H • W • D)
Weight	Approx. 10 kg
Resolution	Min. 1s
Data Management	Prepared for connection to the Palas Cloud MyAtmosphere (“MyAtmosphere-ready”); Internet access and separate registration required. The MyAtmosphere terms of use apply.

NORMS AND CERTIFICATES

EN 16976:2024-09, ISO 27891:2015