

New compact Airmodus CPC A30

Up to 150 000 #/cm³ in single counting mode

The A30 is a robust and reliable tool for aerosol particle measurements in all applications where precision and sensitivity are of essence. The A30 is a compact particle counter, with a user-friendly design that can detect all aerosol particles larger than 7 nm (by request A30 can be delivered with a cut-off between 7 – 10 nm).



A compact and versatile particle counter

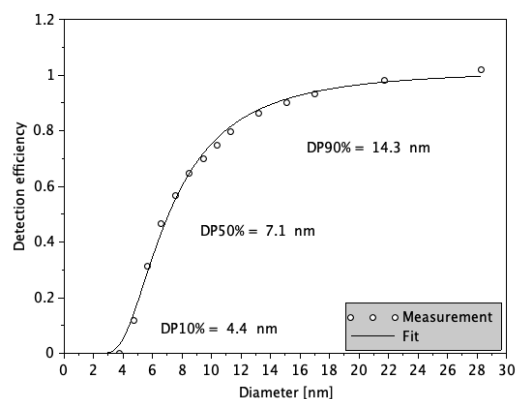
The A30 can be used both as a stand-alone instrument for measuring the total particle number concentration, as well as the detector in various aerosol measurement systems. It is **easy to use and handle**. All settings can be quickly adjusted from the touch screen, which also displays the current concentration reading and instrument diagnostics.

The A30 is also compatible with the Airmodus Particle Size Magnifier A10. Use the A10 when you want to study particles as small as 1 nm!

Airmodus A30 can be delivered as an OEM version. Ask more sales@airmodus.com!

Benefits of the A30

- Designed for precise particle counting - no sample flow dilution
- New active water removal system
- High accuracy at high concentrations:
 - < 150 000 #/cm³ in single particle counting mode
 - > 150 000 #/cm³ in total scattering mode
- Adjusting settings and data logging possible either from the easy-to-use touch screen or from the user-friendly software delivered with the instrument
- Advanced diagnostics of pulse quality, pressure conditions (detects if the inlet is blocked) and laser power monitoring
- Design is focused in enabling field maintenance by the user to supplement our dedicated customer support and service
- All connections optimized for easy access
- Backward compatibility for old TSI serial commands - easy CPC replacement in integrated systems
- Serial commands are fully open for the user



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A30 CPC Specifications

www.airmodus.com

Particle size range	7 nm – 2.5 µm Dp50% = 7 nm* (on request 7 – 10 nm)
Concentration	0 – 400 000 #/cm ³ Up to 150 000 #/cm ³ in single particle counting mode with coincidence correction; higher concentrations with additional total scattering mode correction
Aerosol inlet flow	Nominal flow 1.5 lpm. Bypass flow of 1.3 lpm controlled with a critical orifice. Can be measured externally using a low pressure drop flow meter
Aerosol sample flow	Nominal flow 0.211 lpm, controlled with a critical orifice. Can be measured externally using a low pressure drop flow meter
Response time	t ₉₅ < 1 s
False counts	<0.001 #/cm ³
Working fluid	n-Butanol (>99.5%)
Operating temperatures (Dp50% = 7 nm*)	Saturator: 39°C Condenser: 15°C Optics: 40°C
Sample conditions	Pressure: 75 to 105 kPa Relative humidity: 0 to 95% non-condensing (preferably <40%)**
Environmental conditions	Temperature: 15°C to 35°C Pressure: 75 to 105 kPa Relative humidity: 0 to 95% non-condensing
Communication	<i>Analog out:</i> BNC connector, 0 to 10 V, user-selectable function output (linear concentration, also DMA voltage control) <i>Pulse out:</i> BNC connector <i>Serial:</i> RS-232 <i>Ethernet:</i> RJ45 <i>USB:</i> type B connector All communication based on ASCII character-encoding scheme.
Fittings	<i>External Vacuum:</i> One touch fitting for 6 mm tubing <i>Inlet:</i> 6mm stainless steel tube
Software	Airmodus CPC software for online data acquisition (for Microsoft Windows, 7 or newer)
External vacuum requirement	100 - 400 mbar pressure at NTP (or <40% of inlet pressure)
Power requirements	Instrument uses an external power adaptor (provided with the instrument) Power adaptor input: 100 - 240 VAC 50/60 Hz max. 100 W steady state consumption 40 W Power adaptor output: 12VDC 11.5 A
Dimensions and weight	190x170x250 (height x width x depth in mm) 4.9 kg
Shipping conditions	Temperature: 0 - 40°C Relative humidity: <95% non-condensing The instrument should be shipped in upright position and should be protected against tremor and blows.

*¹) Cut-off size in mobility equivalent diameter. See calibration certificate. On request the cut-off can be calibrated to be in the range 7 – 10 nm.
Note: When delivered as part of an A11 nCNC system, the A30 CPC is delivered with a cut-off of about 10 nm.

**²) With high relative humidity, an aerosol drier should be used to prevent excess water condensation inside the instrument.
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