

# Cloud Droplet Analyzer



High-Resolution Aerosol spectrometer for insitu cloud monitoring of droplets and ice crystals

## Description

The Cloud Droplet Analyzer is a high-resolution optical aerosol spectrometer optimized for measuring size distribution and number concentration of cloud aerosols like droplets and ice crystals. Based on the measurement principle of optical light scattering ( $90^\circ$ ) on single particles and high resolution components droplets and ice crystals can be distinguished.

The optical sensor is also used in research applications from KIT for Ice Nucleation Studies at [AIDA -Chamber](#)<sup>1</sup>

Additionally the cloud water content as well as mean droplet diameter can be reported.

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<sup>1</sup>AIDA-Chamber: <https://www.imk-aaf.kit.edu/73.php>

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## Benefits

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## Datasheet

<i>Parameter</i>	<i>Description</i>
<b>Interfaces</b>	USB, Ethernet (LAN), RS232/485, Wi-Fi
<b>Measurement range (size)</b>	0.4 - 40 $\mu\text{m}$ , 0.8 - 100 $\mu\text{m}$
<b>Measuring principle</b>	Optical light scattering on single particle with evaluation of signal length and amplitude
<b>Measurement range (number <math>C_N</math>)</b>	0 - 200 particles/ $\text{cm}^3$
<b>Volume flow</b>	5 l/min
<b>Data acquisition</b>	Digital, 20 MHz processor, 256 raw data channels
<b>Reported data</b>	Particle size distribution, number concentration, water content, mean volume equivalent diameter

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## Applications

- Insitu-Cloudmonitoring
- Environmental Research
- Climate Research
- Cloudformation
- Ice Nucleation Events

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