# 云滴谱仪

The Cloud Droplet Analyzer is an optical aerosol spectrometer for high-resolution measurement of the size distribution and number concentration of cloud aerosols.

## 工作原理

### AEROSOL SPECTROMETER FOR IN-SITU CLOUD MONITORING

The Cloud Droplet Analyzer uses the recognized measurement technique of optical light scattering according to ISO 21501-1 on individual particles and is equipped with an LED light source of high light intensity, high light stability and long service life.

It is equipped with a Sigma-2 sampling head in accordance with VDI 2119, which enables representative sampling even in strong winds. An automatically controlled heater on the sampling head prevents icing and thus enables reliable sampling even in adverse climatic conditions.

## 优势

- Continuous and simultaneous measurement of particle number concentration and particle size distribution
- Intuitive and simple operation
- Remote monitoring, operation and maintenance easily possible
- No radioactive material
- No consumables
- Low energy consumption
- Low maintenance
- On-site calibration possible

# 技术数据

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|---|---|
| 测量原理 | Optical light scattering at single particles |
| 报告数据 | Particle size distribution, particle number concentration, mean volume diameter, equivalent diameter, water content |
| 测量范围(数量浓度) | 0 – 200 particles/$cm^3$ |
| 测量范围(粒径) | 0.6–40 $\mu$m, 0.8–100 $\mu$m |
| 体积流量 | 5 l/min |
| Size channels | 64 (32/decade) |
| Time resolution | 1 s–24 h |
| 接口 | USB, 以太网（局域网）, RS-232/485 |
| User interface | Touchscreen, 800 • 480 pixel, 7″ (17.78 cm) |
| Protocols | UIDEP, UDP, ASCII, MODBUS |
| 软件 | PDAnalyze |
| Data acquisition | Digital, 20 MHz processor, 256 raw data channels |
| Light source | Long term stable LED |
| 外壳 | 防护等级IP55的防水外壳 |
| Operating system | Windows 10 IoT Enterprise |
| 电源 | 115–230 V, 50/60 Hz |
| Installation conditions | -30–+40 °C, <95% rH, non-condensing, max. 4.000 m (above sea level) |
| Probenahmekopf | Sigma-2被动收集器，可加热并自动调节 |
| Dimensions | 约1,150 • 742 • 404 mm (H x W x D) |
| 重量 | Approx. 40 kg |
| Noise emission | < 60 dB(A) |
| Power consumption | 正常运行：约60 W，最大200 W |

## 应用领域

- Cloud research
- Ice nucleation events
- Environmental research

Mehr Informationen:
https://www.palas.de/zh/product/cda