



### The LIDAR-based cloud height sensor / ceilometer CHM8k is prepared to work throughout the year and in any climate

- **Parameters measured**  
Aerosol backscatter profile, cloud base height, cloud penetration depth, aerosol layer height, cloud cover, vertical visibility, Sky Condition Index
- **Measurement technology**  
Optical (LIDAR)
- **Product highlights**  
Measuring range of up to 8 km (26.246 ft), simple & eye-safe, service-friendly due to modularity, various data telegrams, sensitivity in the range of the Lufft CHM 15k, suitable for the most demanding environments
- **Interfaces**  
RS485 (ASCII communication), LAN (Web-Interface, (S-)FTP, NetTools); optional: DSL modem, RS232 for service
- **Article number**  
8349.01-010

The CHM 8k is the latest ceilometer from Lufft. Using the Lidar technique, it detects backscatter aerosol profiles / structure in multiple layers, cloud bases, cloud penetration depths as well as vertical visibility and issues the sky condition index. It has an operating range of up to 8,000m (26,200 ft) and is equipped with an integrated controller offering a fully embedded real-time calculation of all target parameters and comfortable user interfaces. The Lufft ceilometer series is prepared to work throughout the year and in any climate. Due to their double case structure combined with a window blower and an

automatic heating system, the ceilometers are free of fogging, precipitation, freezing or overheating issues.

<b>Measuring principle</b>	<b>Lidar (optical, time of flight)</b>
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<b>Measuring parameters</b>	
Description	Aerosol backscatter profile
Measuring range	0 ... 10 km (0 ... 32,808 ft)
Cloud detection range	5 m ... 8 km (16 ... 26,246 ft)
Time resolution	2 ... 600 s
Range resolution	5, 10, 15 m
Quality and auxiliary values	External and internal temperature, window status, laser status, receiver status

<b>Target parameters</b>	
Quantities given in layers	Cloud base height, cloud penetration depth, aerosol layer height
Number of layers	1 - 9 layers (programmable), 3 layer preset
Accuracy (measured on hard target in 10 km distance)	±5 m (±16 ft)
Additional quantities	Cloud cover in octas (WMO 2700), Vertical visibility in m, Sky condition index

<b>Communication</b>	
Standard interfaces	RS485 (ASCII communication) LAN (Web-Interface, (S-)FTP, NetTools)
Optional interfaces	DSL modem, RS232 for service

<b>Electrical parameters</b>	
Power supply	230 VAC or 115 VAC, ±10 %
Power consumption	250 W (Standard) 450 W (in maximum heating mode) 800 W (opt. special version for extended temperature range)
UPS functionality (opt.)	Internal backup battery for electronics, > 1 hrs

<b>Laser-optical parameters</b>	
Light source	Laserdiode
Wavelength	905 nm
Pulse energy	< 3
Pulse repetition frequency	8 kHz
Filter Bandwidth	25 nm
Field of view receiver	1.1 mrad

<b>Operating Safety</b>	
Environmental compliance	ISO 10109 - 11

# Technical Data

## Lufft Ceilometer CHM 8k



Laser protection class	1M, IEC 60825-1:2014; complies with 21 CFR 1040.10 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007
Protection level housing	IP65
Electrical Safety	EN 61326 - 1 Class B
Certifications	CE (230 VAC); 115 VAC version compatible with FCC/ CSA
International standards	Complies with ICAO frangibility requirements

### Operating Conditions

Temperature range	-40 ... +55 °C
Relative humidity	0 ... 100 %
Wind	55 m/s

### Physical

Dimensions	500 x 500 x 1550 mm
Weight	70 kg (130 kg incl. Packaging)