



## The LIDAR-based cloud height sensor / ceilometer CHM 15k 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 up to 15 km (50,000 ft), optimized detection of several cloud layers, simple eye-safe operation, service-friendly modular device design, various data telegrams including raw data
- **Interfaces**  
RS485, LAN, RS232 oder Modem V.21, V22
- **Article number**  
8350.00, 8350.01 incl. 8350.MOD, 8350.10, 8350.03

The Lufft CHM 15k has a double-walled housing combined with integrated fan and automatic heating system. Thus it provides reliable protection against misting, precipitation, freezing or overheating.

Exact results due to high sensitivity!

Reliable and accurate results at any time of the day or night are ensured by the use of long-life laser sources, filters with narrow bandwidth and high-sensitivity photodetectors.

<b>Measuring principle</b>	Lidar (optical, time of flight)
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<b>Measuring parameters</b>	
Description	Aerosol backscatter profile
Range	5 ... 15,000 m (16 ... 50.000 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 (CBH), Cloud penetration depth (CPD), Aerosol layer height (ALH)
Number of layers	1 - 9 layer (programmable); 3 layer preset
Distance measurement accuracy against hard target	Greater of $\pm 5$ m ( $\pm 16$ ft) or $\pm 0.2\%$
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, $\pm 10\%$
Power consumption	250 W (Standard) 800 W (in maximum heating mode)
UPS functionality (opt.)	Internal backup battery for electronics >1 hr

<b>Laser-optical parameters</b>	
Light source	Nd:YAG solid state laser
Wavelength	1064 nm
Pulse energy	7 $\mu$ J
Pulse repetition frequency	5 - 7 kHz
Filter Bandwidth	1 nm
Field of view receiver	0.45 mrad

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

# Technical Data

Ceilometer CHM 15k „NIMBUS“



Certifications	CE 115 VAC version compatible with FCC/ CSA
International standards	Complies with ICAO frangibility requirements

Operating Conditions	
Temperature range	-40...+50 °C
Relative humidity	0 ... 100 %
Wind	55 m/s

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