



10 km Ceiling LIDAR Ceilometer

Cloud measurement with advanced signal processing

Overview

The CS135 LIDAR Ceilometer measures cloud height and vertical visibility for meteorological and aviation applications. Using LIDAR (light detection and ranging) technology, the instrument transmits fast, low-power laser pulses into the atmosphere and detects back-scattered returns from clouds and aerosols above the instrument.

The CS135 complies with CAA and ICAO guidance and meets or exceeds all recommendations and specifications. (This includes CAP437, CAP670, and CAP746.)

Tilt capability to 24° allows the sensor to be operated anywhere in the world without the sun shining directly into the lens.

Benefits and Features

- › Single lens design
- › Robust, reliable Campbell Scientific electronics
- › Mixing Layer Height assessment for air quality applications (feature requires a key to unlock at extra charge)
- › Reports cloud height and sky condition to WMO and ICAO recommendations
- › State-of-the-art signal processing
- › Competitive pricing
- › Built-in stratocumulus-based calibration
- › Dual clock comparison for confidence in reliable operation
- › Integrated heater, blower, and radiation shield
- › Filter to protect detector from direct sunlight

Specifications

Temperature Range	<ul style="list-style-type: none"> › -20° to +50°C (-4° to +122°F) with standard battery › -40° to +60°C (-40° to +140°F) excluding battery 	ranges can be supplied to achieve the -40° to +60°C range.)
Battery Temperature Range	-20° to +50°C (Alternative battery types with wide temperature	
Humidity Range		0 to 100% RH
IP Rating		IP66 (NEMA 4x)
Dimensions		100 x 33.0 x 31.6 cm (39.4 x 13.0 x 12.4 in.) including base

Shipping Dimensions 120 x 45.0 x 45.0 cm (47.2 x 17.7 x 17.7 in.)

Weight › 32 kg (71 lb) without cables
› 25 kg (55 lb) without cables, outer cowling, and enclosure

Shipping Weight 58 kg (127.9 lb)

Instrument Performance

Reporting Range 0 to 10 km (0 to 32,808.4 ft)

Minimum Reporting Resolution 5 m (15 ft)

Hard Target Range Accuracy $\pm 0.25\%$, ± 4.6 m

Reporting Cycle 2 to 120 s

Cloud Layers Reported Up to four layers

Sky Condition Up to five layers with cover in oktas according to WMO requirements for SYNOP and METAR codes

Vertical Visibility Reported when no clouds selected

Laser Wavelength 912 nm (± 5 nm)

Eye Safety Standard Class 1M

Maximum Wind Speed 55 m/s

Electrical

Power 110, 115, 230 Vac $\pm 10\%$, 50 to 60 Hz, 470 W maximum

Battery Internal 12 Vdc, 2 Ah battery backup

Provides 2 h measurement, without blower/heater, in the event of mains failure.

Interfaces

Data Interfaces RS-232, RS-422, RS-485, Ethernet

Maintenance Interfaces USB 2.0 (USB 1.1 compatible)

Baud Rate Interfaces 300 to 115200 bps

Compliance

Laser Safety Compliance EN60825-1:2001

Electrical Safety Compliance EN61010-1

For comprehensive details, visit: www.campbellsci.com/cs135 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | www.campbellsci.com
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