



SkyVUE8M Tactical LIDAR Ceilometer



8 km Ceiling Tactical LIDAR Ceilometer

DC-powered for quick tactical deployment for military or civilian use

Overview

The SkyVUE™8M Tactical LIDAR Ceilometer is ideal for quick tactical deployment (for permanent or temporary installation) for military or civilian applications in all climates.

The ceilometer's robust construction requires minimal maintenance and enables continuous use and multiple deployments in the harshest of environments. Designed to be easily portable, the SkyVUE™8M has unique quick-deploy stabilizing legs, low weight, and a compact design with a beige finish and two canvas covers to suit all applications.

The SkyVUE™8M has many standard features, including a tilting base, a two-axis inclinometer for automatic correction of cloud heights, heaters, blowers, and a sun filter for operation under all conditions—making deployments possible around the world.

The SkyVUE™8M has an operating range of 8 km and meets or exceeds all the necessary ICAO, CAA, and WMO requirements and recommendations.

Unique standard features include an easy-to-operate stratocumulus calibration and twin clocks to augment its many continuous diagnostic self-checks and provide assurance of continuous, reliable, and accurate performance.

Benefits and Features

- ▶ Single-lens design for high signal-to-noise ratio and maximized detector sensitivity, resulting in greater performance at low and high altitudes
- ▶ Low weight and small form factor for maximum portability
- ▶ Quick-deploy stabilizing legs
- ▶ Multiple camouflage options with shroud
- ▶ Low power consumption with multiple power options
- ▶ Unique continuous comparison of two separate internal quartz clocks to eliminate possibility of clock drift, ensuring measurement confidence
- ▶ User-friendly stratocumulus calibration capability and easy test with provided calibrator plate for easy field setup and calibration

Detailed Description

The SkyVUE™8M LIDAR ceilometer measures cloud height and

vertical visibility for aviation and meteorological applications.

Using LIDAR (Light Detection And Ranging) technology, the ceilometer transmits fast, low-power laser pulses into the atmosphere and detects backscattered returns from clouds and aerosols above the instrument.

A unique, efficient single-lens design increases optical signal-to-noise ratio and allows for larger optics in a compact package, improving accuracy and measurement performance.

This approach, along with state-of-the-art electronics, provides a powerful and stable platform from which to measure cloud height and vertical visibility to high accuracy. The SkyVUE™8M measures the atmosphere with high stability and repeatability, delivering excellent performance in even the harshest of conditions.

The SkyVUE™8M provides information on cloud height, sky condition (up to five layers), vertical visibility, and raw backscatter profiles to a range of 8 km.

Specifications

Dimensions 763 x 360 x 253 mm (30.0 x 14.2 x 10.0 in.) including base and handle

Weight 18 kg (39.7 lb) excluding cables

Instrument Performance

Reporting Range 0 to 8 km (0 to 26,250 ft)

Minimum Reporting Resolution 5 m (16.4 ft)

Hard Target Range Accuracy $\pm 0.25\%$, ± 4.6 m (15.1 ft)

Reporting Cycle 2 to 600s

Cloud Layers Reported Up to four layers (up to five layers in Sky Condition)

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

Laser Type InGaAs

Laser Wavelength 912 nm (± 5 nm)

Military Specification
 › DEF STAN 00-035 (for resistance to shock and vibration)
 › MIL-STD-80g (for resistance to shock and vibration)

Electrical Specification

Power Source
 › 10 to 40 Vdc, current drain 9 A at 12 Vdc, 4.5 A at 24 Vdc
 › DC power source only

Interfaces-Maintenance USB 2.0 (USB 1.1 compatible)

Interfaces-Baud Rate 300 to 115200 bps

Interfaces-Data RS-232 / RS-422* / RS-485* / Ethernet option *The standard wiring of the military output connector does not support RS-422 and RS-485 functionality. Functionality to support RS-485 and RS-422 are available by special order only.

Environmental Specification

Temperature Range -40° to $+60^{\circ}\text{C}$ (-40° to $+140^{\circ}\text{F}$)

Humidity Range 0 to 100% RH

IP Rating IP66 (NEMA 4X)

Maximum Wind Speed 55 m/s (123 mph) if securely attached to the ground (without camouflage covers)

Compliance and Testing

-NOTE- Further details regarding compliance and testing are available upon request.

EMC Compliance EN 61326-1:2013

Electrical Safety Compliance EN 61010-1:2010

Laser Safety Compliance EN 60825-1:2014

Eye Safety Standard Class 1M

Vibration BS EN 60068-2-6:2008 Test Fc: Vibration (Sinusoidal)

Frequency Range 5 to 150 Hz (exceeds Lloyd's Register test levels)

For comprehensive details, visit: www.campbellsci.com/skyvue8m 



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