

Vaisala Ceilometer CL31

Accurate, reliable cloud base height and vertical visibility data to 25,000ft (7.6km)



Key benefits

Fully automatic 24/7 operation in all weather conditions

Built to deliver even in extreme weather, the CL31's protection includes optical filters for solar defense, tiltable mechanics, automatic window blower with heater, backup battery, comprehensive self-diagnostics with contamination monitoring, and status reporting.

Exceptional data accuracy

The CL31 detects three cloud layers simultaneously and, even under the most demanding conditions, generates a full range of measurements, including precise assessment of inversion layers and nocturnal stable layers below 200m.

Reliable measurement from ground level

Enhanced single-lens technology ensures excellent performance starting at a height of virtually zero with a strong, stable signal over its full measurement range.

Low maintenance and cost of ownership

Extensive self-diagnostics, automated field adjustments, and practical modularity make the CL31 easy to maintain and affordable to operate.

Fast, accurate cloud and visibility detection is crucial to creating precise forecasting, situational awareness, and air quality reporting. Even when the weather is at its worst, Vaisala's Ceilometer CL31 captures the detailed cloud layer data needed to build precision simulations of existing conditions. After all, the quality of weather modeling is only as good as the data you collect.

The CL31 was designed to deliver cloud base height and vertical visibility measurements in all types of weather — good or bad. It's the perfect monitoring tool for capturing accurate cloud and mixing layer height data meteorologists and aviation specialists need to generate detailed weather prediction models for operational and safety planning. Advanced sensor and lidar technology lets you capture three cloud layers simultaneously, delivering detailed measurements especially for low clouds and low inversion layers, precipitation, and fog. Add the optional Vaisala Sky Condition algorithm, and you have an easy and cost-effective way to generate even more useful information from your ceilometer.

Trusted weather observations for a sustainable future

CL31 at a glance

Applications

- Reliable cloud detection and reporting for critical operational safety in meteorological and aviation settings.
- Inputting cloud height and sky condition source data for numerical weather prediction models.
- Verification of numerical weather forecasting and dispersion models.
- Generating vertical profiling data to provide comprehensive understanding of the atmosphere.
- Automatic monitoring of boundary layer structures.
- Supporting air quality data processing systems to study the interaction between pollutants and meteorological factors.

Key features

Advanced single-lens optics and processing provides improved performance for cloud and mixing layer height measurements, especially for low clouds and low inversion layers, precipitation, and fog.

Pulsed diode lidar for reliable operation and long life expectancy.

Full backscatter profiling with detailed accuracy and reliability in all weather conditions up to 25,000ft (7.6km).

Fast measurement technology that delivers accurate detection of the fine cloud base structure such as the detection of thin stratus cloud patches below a solid cloud base.

Complete, preconfigured delivery, including main assembly, sensors, and power equipment for easy installation. Fits on the foundation of earlier Vaisala ceilometers for quick upgrades.

Why Vaisala?

The industry's most dependable technology

Vaisala cloud measurement systems are built on nearly 50 years of industry leadership. The precision and ruggedness of our technology has also been validated time and time again under the harshest conditions, with thousands of units deployed in more than 110 countries.

Our ceilometers meet the stringent requirements for use by the national weather services of the United States, Germany, and the Czech Republic, as well as the U.S., Canadian, and Russian national aviation administrations. The Vaisala CL31 is also the only ceilometer to pass the demanding test criteria of the U.S. Automated Surface Observing Systems (ASOS) program.

Support you can count on

Look to Vaisala for dependable support, project capabilities, and training so you can get the most from your system. With decades of experience providing the best technologies and the finest support, Vaisala's philosophy of partnership is unmatched in the industry.

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