



CBME40A

Cloud Height Sensor

The CBME40A cloud ceilometer is a stand-alone instrument designed for fixed and mobile installations. It detects clouds using the LIDAR principle with a low power diode laser that is eye safe. This ceilometer has a detection range up to 25,000 feet and is very accurate. The CBME40A is highly reliable, with a demonstrated mean-time-between-failures of over 100,000 hours.

The main advantages of the CBME40A are its size, weight, power requirement, and modern design. The small size and weight make the CBME40A ideal for mobile use and facilitates easy maintenance by one person. The ceilometer can be carried in one hand and can operate from a 12 VDC battery or solar supply, or from AC mains power. The primary advantage of the CMBE40A is its modern electronic design, which reduces the number of replaceable subassemblies to two items and allows complete field replacement without adjustments or calibration.

The CMBE40A employs unique digital signal processing techniques that enable detection of up to five cloud layers from an eye-safe laser. This special design also extends the life of the laser beyond 10 years. The CBME40A has outputs for different types of display and recording units. An RS-232 interface supports local control, test, and data acquisition. For remote control and data acquisition, there is an internal FSK modem. A digital readout on the ceilometer enclosure provides cloud base and operating status information.

The ceilometer has built-in test equipment for automatically adjusting its operating parameters and for self-diagnostics. The cyclic self-testing completely covers the ceilometer's operation and reports current status in every output message. There are no periodic calibrations or adjustments required. The CMBE40A has been tested to IEC environmental standards for vibration, shock, impulse voltages, transients, operating temperature, and EMI susceptibility and emissions.



Technical Specifications

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| Range: | 30 to 12,000 ft or 30 to 25,000 ft. (option) |
| Resolution: | 20 ft. |
| Accuracy: | 20 ft. or 2%, whichever is greatest. |
| Measure interval: | 30 seconds (selectable) |
| Outputs: | RS-232C, V.23 alt. V.21, Bell 103 alt. Bell 212, analog voltage, and local readout. |
| Output data: | Cloud height (up to 5 bases), cloud depth, backscatter signal profile, vertical visibility, maximum discernible range, self-test data. |
| Operating temp: | -40 to +50°C |
| Power supply: | 110/240 VAC or 12 VDC @ 25 VA Heaters 200 VA, Blower 200 VA |
| Color: | Gloss white or military green |
| Weight: | 15 kg without stand |
| Dimensions: | 353 mm x 358 mm x 234 mm |
| Laser safety: | Class 1 laser product, SSIFS 1980:2 (SS-EN60825) |

Ordering Information

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| CMBE40A | Cloud Ceilometer, 110 VAC, 240 VAC, 12 VDC |
| CHI-40S | Support stand for fixed installations |
| CHI-40ST | Support stand with tilting capability |
| CHI-40BL | Blower option for removing snow from lenses. |
| CHI-40DM | Compatible FSK modem for data acquisition unit. |
| CHI-40DP | Digital readout for CMBE40A enclosure |
| CHI-40DA | Digital readout with analog output for recorder |
| CHI-40SS | Sun shutter option for equatorial installations. |
| CHI-40S | Graphic display software for Microsoft Windows |

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