

Cloud Height Sensor

The 80171 cloud ceilometer is a stand-alone instrument designed for fixed and mobile installations. It detects clouds using the LINDAR 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 80170 is highly reliable, with demonstrated mean-time-between-failures of over 150,000 hours.

The main advantages of the 80171 are its size, weight, power requirement, and modern design. The small size and weight make the 80171 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 80171 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 80171 employs unique digital single processing techniques that enables 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 80171 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 not periodic calibrations or adjustments required. The 80171 has been tested to IEC environmental standards for vibration, shock, impulse voltages, transients, operating temperature, and EMI susceptibility and emissions.



**THE STANDARD
OF MEASUREMENT**

BELFORT INSTRUMENT

Cloud Height Sensor Model 80171

Specifications

Ordering Information

80171	Cloud Ceilometer. 110 VAC, 240 VAC, 12 VDC
CHI-80S	Support stand for fixed installations
CHI-80ST	Support stand with tilting capability
CHI-80BL	Blower option for removing snow from lenses
CHI-80DM	Compatible FSK modem for data acquisition unit
CHI-80DP	Digital readout for CBME80 enclosure
BE360	Digital display for remote viewing
CHI-80SS	Sun protection option for equatorial installations
CHI-80SW	Graphic display software for Microsoft Windows

Range.....	0 to 25,000 ft (0 to 7500m)
Resolution	30 ft. (10m)
Accuracy.....	30 ft or 2%, whichever is greatest
Measure interval.....	30 and 60 seconds
Outputs.....	One service port (RS-232C) One data port (RS-232C or FSK) Local readout display (option)
Output data.....	Cloud height (up to 5 bases), cloud depth, sky coverage (option), backscatter signal profile, vertical visibility, maximum discernable range, sell-test data
Operating temp.....	-50 to +50° C
Power Supply.....	110/240 VAC or 12 VDC @ 30 VA Heaters 160 VA, Blower 250 VA
Color.....	Gloss white or military green
Weight.....	15kg (32lbs) without stand
Dimensions.....	358mm x 408mm x 232mm (14in x 16in x 9in)
Laser safety.....	Class 1 laser product, SSIFS 1980:2 (SSEN60825)



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