

# Vaisala FD12 Visibility Meter



## Features

- Measurement range 10 to 50 000 m
- Built-in compensation for different types of precipitation
- Minimum of maintenance needed
- Correct visibility data in any weather conditions

The FD12 forward-scatter visibility meter evaluates the Meteorological Optical Range (MOR) by measuring the scatter of infrared light in air. Typical applications of FD12 are visibility measurement at airports and onboard ships, fog detection and warning for highways, and meteorological observations at remote locations.

FD12 consists of a transmitter, a receiver, and a controller. The simplified mechanical design means minimum disturbance to the sample volume of air. The compact construction and factory set mountings ensure easy installation and eliminate problems with start-up adjustments.

A minimum of maintenance is needed. All hardware from electronic components to optics is field-proven. Anodized aluminium surfaces together with a simple construction make the instrument weather-proof. Depending on the environment, the cleaning of the lenses is necessary only a few times per year; the device features automatic detection of contamination and, consequently, alarm for the need of cleaning.

An extensive set of self diagnostic routines monitors sensor operation continuously. In case of a malfunction, an alarm is immediately generated. The failure can be easily located by enquiring the diagnostics about the sensor status.

The measurement range of FD12 is 10 to 50 000 metres. By utilizing digital techniques in hardware design and signal processing, the device exceeds the performance of other forwardscatter instruments. Fast pulse rate used enables precise recognition of weather conditions. The device has a built-in visibility calculation compensation for snow, fog, rain and sleet. The effects of stray light and severe weather are eliminated resulting in accuracy under all circumstances.

In visibility sensor comparisons, FD12 has proved to determine correct visibility data in weather conditions ranging from clear to fog, to heavy rain and snow conditions.

# Technical data

## Measurement range

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Measurement of MOR 10 ... 50 000 m (32...65,500 ft)

## Instrument consistency

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Variability between units ± 4 %

## Outputs & power supply

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Serial interfaces RS-232/485  
Analog output 4 ... 20 mA current loop  
Power supply 115/230 V ±20 %, 50/60 Hz  
Power consumption 30 VA + 100 VA with defrosting heaters

## Environmental

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Operating humidity 0 ... 100 % RH  
Operating temperature -40 ... +55 °C  
Weight 35 kg with pole mast  
20 kg with clamp mountings  
Dimensions 210 cm (h) × 160 cm (w)

## Options

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Optional display unit Vaisala's DD50 Digital Display  
Optional modem 300 baud  
Optional fixings Mast mounting clamps  
Wall mounting clamps