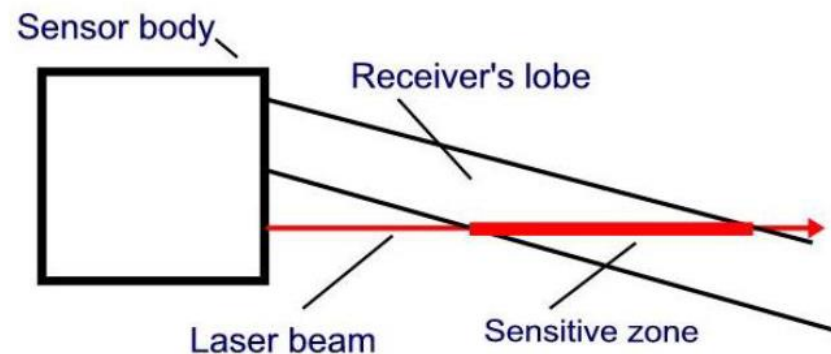


Visibility sensor

Model: Air Eye

Visibility sensor designed by Dr. Sten Löfving is used to make direct measurements of visual range. This sensor is a robust backscatter visibility sensor. The sensor is equipped with a membrane ventilator preventing from water intrusion because of under pressure during sudden temp decrease. The sensor consists of two main parts:

1. A LASER radiation source. The LASER is a visible semiconductor laser, which generates a narrow, amplitude modulated collimated beam.
2. An optical receiver consisting of a lens, a detector and a phase locked amplifier



Microprocessor controlled analog output:

The microprocessor also controls the analog output. These outputs are also updated every 60 seconds. During the first minute of operation after switch-on, the signal on the analog outputs will therefore be zero. (This may be a bit confusing at setup)

Visibility sensor



Specifications

Box dimensions: 120*120*90 mm approximate

Weight about 1kg

Temp. range: -20 to +50 deg C

Laser output power less than 5 mW, laser safety class 3R

Laser wavelength: 650nm

Housing: IP 65 aluminum box, openings sealed with O-rings.

Supply Voltage 12 Volt, DC (11-15), linear i e not switched

Current consumption: about 50 mA + 200 mA for lens heating.

Warmup Time: About 1 minute

Digital output RS232 Streaming: every 60 sec

Analog outputs 0.03-5Volt, corresponding to 30 to 5000m visibility,

Output impedance \approx 1kohm

Accuracy visibility reading: Reading is typically within \pm 20% when MOR is up to 5000 m

Range: 20 to 10000 meters

Electrical supply connection

A floating linear DC 11-15 Volt (nominal 12Volt) , min 300 mA power supply is connected on the 2-terminal marked plus and minus on the screen print. Note that a floating linear i e not switched power supply should be use

Mounting the unit

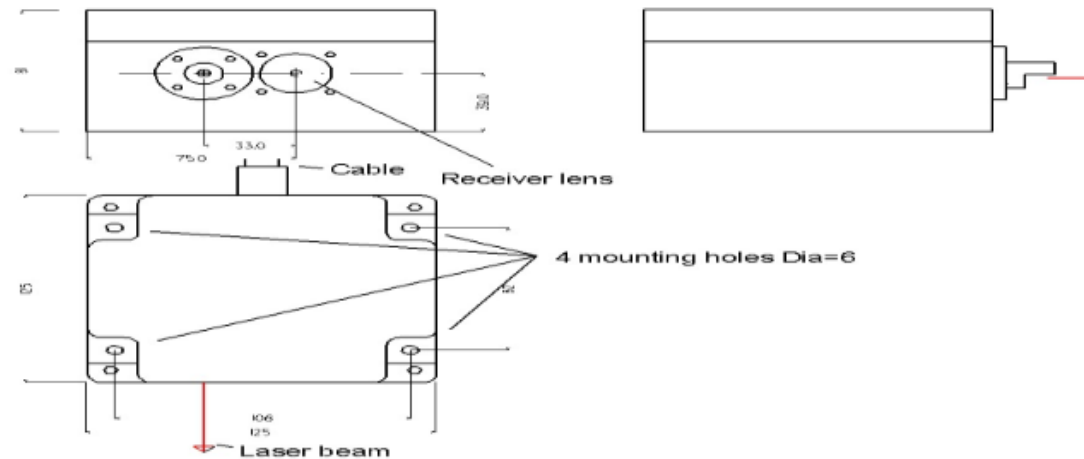
The unit should be mounted so that the laser beam is directed approximately north (on the southern hemisphere south) and horizontal, i e sunlight must not reach the detector. Note the channels with mounting holes for M5 bolts in the box, see drawing. The beam should not hit anything within a distance of about 10 meters



Visibility sensor

Applications

- Road & rail tunnels
- Marine vessels
- Small airports & helipads
- Building controls
- Remote weather monitoring stations
- Environmental field sites
- Ports & harbours
- Mobile weather monitoring vehicles
- Coastal weather monitoring stations



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**Drawing/specifications are subjected to change at any time without prior notice as per manufacturing suitability.