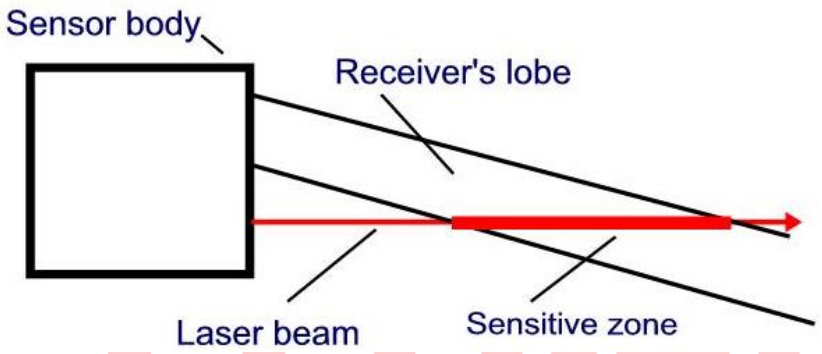
Visibility sensor

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



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 ≈ 1kohm
Accuracy visibility reading: Reading is typically within ± 20% when MOR is up to 5000 m
Range: 20 to 10000 meters

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

Microprocessor controlled analog output:

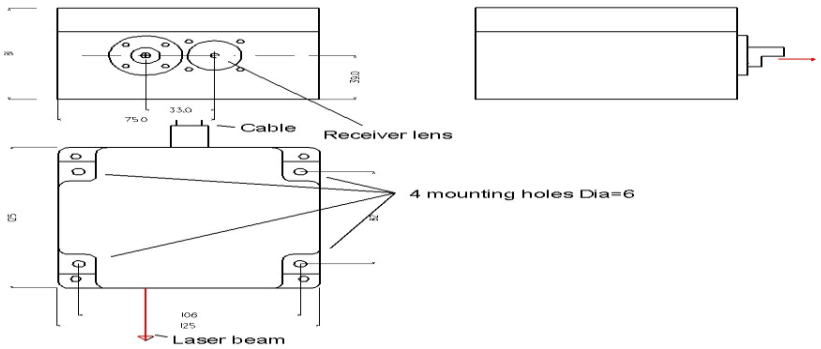
The microprocessor also controls the analog output. These outputs are also updated every 60 seconds. During the first minute of operation after switch-on, the signal on the analog outputs will therefore be zero. (This may be a bit confusing at setup)

Electrical supply connection:

A floating linear DC 11-15 Volt (nominal 12 Volt) , 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 swithed 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



1105/1, Salempur Rajputana Industrial Estate
Roorkee - 247667, Haridwar, Uttarakhand, INDIA
Tel :+91-7088-772-772, vhydromet@yahoo.com

Represented by:

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