

Present Weather / Visibility Sensor

Model: MiniPWS

The PWSMini is designed by Dr. Sten Löfving is a spin off from our MiniOFS sensor and it is probably the cheapest Present Weather Sensor on the market. And it is very compact - the width is only 68 mm. This little sensor measures 3 important weather parameters.

- (1) Visibility
- (2) Rain - the response is fast compared to that from a tipping bucket. The threshold is also lower.
- (3) Snow - same as for rain - note that a simple tipping bucket sensor does not detect snow in many cases.

Besides that two other weather parameters are measured and displayed:

Ambient light - the resolution and accuracy is not as good as for special sensors like solarimeters but the information is useful for giving answers

to questions like telling if it is cloudy or not or of course if night or day. Temperature - the temp. sensor is located inside the sensor body and the accuracy is therefore not better than about ± 2 deg C. (But this is in some cases good enough - trends can be seen etc.)



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Specifications

Dimensions: 68*45*34 mm

Weight: About 170 grams

Warm up time: 5 minutes

Current consumption: mean 20 mA from a 12 Volt (8-14) supply

Outputs: Digital, streaming RS232

Update time: 1 min for visibility *

Temp. range: -20 to +50 deg C

Optical output power: Max about 1.8 mW from an IR laser, mean about 0.8 mW

laser safety class: 1, Wavelength: 980nm

Housing: Anodized aluminum, openings sealed with O-rings

Visibility range: Visibilities from 5 km down to 20 meters

Accuracy of visibility reading: $\pm 30\%$

Accuracy of measured rain amount: $\pm 40\%$

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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Mounting the Unit

The sensor should be mounted so that it "looks" roughly north (on the southern hemisphere south). There must not be anything in the sightline closer than about 5 meters. Outside a cone of about 30 degrees angle objects can be tolerated at down to about 1 meter.

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