

# Sentry™ Visibility Sensor



## - - - Key features - - -

- 16 km (10 mile) visibility range
- Proven 42-degree forward scatter angle
- Compact, lightweight package
- Flexible output options
- Ice-resistant “look down” geometry
- Simple installation & maintenance

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# Sentry™ Visibility Sensor

**M**easures atmospheric visibility (meteorological optical range) by determining the amount of light scattered by particles (smoke, dust, haze, fog, rain, & snow) in the air that passes through the sample volume. A 42-degree forward scatter angle is used to ensure performance over a wide range of particle sizes. MOR is calculated by the user by converting the received signal strength (extinction coefficient,  $\sigma$ ) using Koschmeider's formula,  $MOR (Km) = 3/\sigma$ .

**P**erformance in all weather conditions was a design prerequisite for the Sentry™. An integrated, one-piece housing design keeps all cabling internal to the sensor for the ultimate protection against the elements. The sensor housing is made from anodized aluminum and the enclosures are rugged, UV-resistant fiberglass rated to IP66. Based on the proven experience of the NWS and FAA, the sensor uses a "look down" geometry to reduce window contamination and clogging from blowing snow. The windows use continuous duty anti-dew heaters and thermostatically controlled external hood heaters are offered for protection in extreme environments. All power and signal lines to the Sentry™ are protected with surge and EMI filtering to help guarantee uninterrupted service for the life of the sensor.

**I**nstallation and maintenance effort is minimal for the Sentry™. A flange located on the bottom of the sensor signal processing box mates with a user supplied 1-1/2 inch IPS pipe. Power and signal connections are made through waterproof cable glands to terminal boards in the Signal Processing Box.

**C**alibration of the Sentry™ in the field is as simple as attaching a factory supplied calibration fixture and following a simple procedure that takes less than 30 minutes. Semiannual calibration is recommended.

Specifications		
Performance	Power	Environmental
<b>Range:</b> 30 m to 16 km (other ranges available) <b>Accuracy:</b> +/- 10 % RMSE <b>Time Constant:</b> 60 sec <b>Scatter Angle:</b> 42 deg nominal <b>Source:</b> 880 nm LED <b>Outputs:</b> 0-10 VDC standard 0-5 VDC optional Output Control Board optional with: 4-20 ma, 4-20 ma isolated, control relay, and/or diagnostic relay Microprocessor Board with RS-232 optional	<b>AC Version:</b> 100-240 VAC, 14 VA; 70 VA w/ Hood Heaters <b>DC Version:</b> 10-36 VDC, 6 VA; 18 VA w/ Hood Heaters <b>Physical</b> <b>Weight:</b> 8 kg (18 lb) <b>Dimensions:</b> 889 mm W x 292 mm H x 305 mm D (35 in x 11.5 in x 12 in) <b>Mounting:</b> Nominal 40 mm pipe, 48.3 mm OD max (1-1/2 inch IPS pipe, 1.9 inch OD max)	<b>Temperature:</b> -40 to 60 C <b>Humidity:</b> 0-100% <b>Protection:</b> IP66 (NEMA-4X)



Airport



Coastal/Maritime

*- Applications for the Sentry™ Visibility Sensor -*

**Ordering Information**

Sentry™ Visibility Sensor Model SVS1-x-y-z-h  
 Where "x" = mains voltage (A = 115 VAC, B = 100 VAC, C = 220 VAC,  
 D = 240 VAC, 50/60 Hz, E = 12 VDC)  
 "y" = analog output (1 = 0-10 VDC, 2 = 0-5 VDC)  
 "z" = output options (Blank = no, O = Output Option PCB,  
 M = Microprocessor w/ RS-232 PCB)  
 "H" = hood heaters (Blank = no, H = yes)

- See Price List for other options -



Roads/Bridges



Met Stations

**To order, call EnviroTech Sensors at 410.531.8596**



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