# EEx Visibility Sensor

## ONE OF THE FEW FOG DETECTORS THAT IS EEX RATED

**The EEx visibility sensor measures 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) = $3/\sigma$.

**Performance** in all weather conditions was a design prerequisite for the EEx Visibility Sensor. The sensor uses ATEX/IECEx rated EEx housings and offshore marine grade sheathed cables to ensure all-weather, Zone 1, IP66 certified performance.

A sturdy aluminum frame painted with durable powder-coat paint is used to mount the housings and provide mounting to a customer supplied mounting pipe. Power and signal lines to the EEx Visibility Sensor are protected with surge and EMI filtering to help guarantee uninterrupted service for the life of the sensor.

**Installation** of the EEx Visibility Sensor is easy. A mounting flange located on the bottom of the sensor housing mates with a user-supplied 4 inch IPS pipe. Power and signal connections are made through M25 threaded holes using user supplied, Ex approved cable glands and wiring. User wiring is made to DIN rail mounted terminal boards in the Signal Processing Box.

**Calibration** of the EEx Visibility Sensor in the field is as simple as attaching a calibration fixture to the back of the sensor and following a procedure that requires less than 20 minutes. Each sensor is supplied with a calibration fixture. Semiannual calibration is recommended.

### Features
- Up to 8km (5 mile) visibility range
- Forward scatter measurement technique
- ATEX/IECEx Zone 1 hazardous area
- Flexible output options
- Compact, lightweight package
- Simple installation and maintenance

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# Visibility Sensor

## Technical Details

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|---|---|
| **Visibility Range** | 15m to 8km |
| **Accuracy** | +/-10% RMSE |
| **Time Constant** | 60 sec. |
| **Scatter Angle** | 42 deg nominal |
| **Source** | 880NM LED |
| **Output Standard** | 0-10VDC |
| **Output Options** | Various options of analogue, serial and control relays |
| **DC Input** | 12 or 24VDC, 10VA Nominal; |
| **Size** | 1170mm W x 915mm H x 560mm D |
| **Weight** | 40kg |
| **Operating Temperature** | -20° C to 60° C |
| **Protection** | IP66 (NEMA 4X) |
| **Operating Humidity** | 0-100% |
| **Mounting** | Nominal 102mm pipe (122mm OD max.) |
| **Standards** | CE, ATEX/IECEx Ex II 2GD EEx d IIb T5/T6 |

NOTE: Specifications are subject to change.