

Aurora-1000

Single Wavelength Nephelometer

User friendly, easy to use and maintain, the Aurora-1000 lowers the cost of ownership for visibility measurements and particulate monitoring.

The Aurora 1000 is the 'new generation' monitor which uses a single wavelength for visibility measurements at one of three user specified wavelengths

- 450nm (blue) for fine and ultra fine particulates (wood fires, automobiles)
- 525nm (green) for visibility
- 635nm (red) for large particulates (e.g. pollen, sea salt)

Differentiated in the marketplace by Ecotech's innovative LED Light source design, the Aurora 1000 provides higher reliability and stability in measuring local atmospheric visibility.



Applications

- Visibility Measurements (Airports, City pollution, AAQMS)
- Dust/Sand storm monitoring and early detection networks
- Bushfire pollution monitoring and early detection networks
- PM_{2.5} mass measurement correlation studies

Features

Increased accuracy

- Automatic optical reference calibration
- Enhanced light-source increases measurement accuracy

Ease of use

- Compact and portable
- Easy, automated instrument calibration using the selected span gas, with pressure and temperature compensation
- Internal sample heater which can be enabled by the user to eliminate the effects of humidity (RH: <40% to <90%)
- Automatic Zero/Span check or adjust available in intervals of 1,3,6,12 or 24 hrs or weekly
- Holds up to 45 days of 5 minute data averages or 10 days of 1 min data averages
- Data downloader and Firmware upgrading software supplied on CD

Lower cost of ownership

- Facilitates a wide measuring range (σ_{sp} <0.25 Mm⁻¹ to >2 000 Mm⁻¹)
- Internal 12V heater eliminates the need for external inlet heater
- Long lasting LED light source

**ECOTECH**WORLD CLASS
environmental
MONITORING

Specifications

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|-------------------------|---|
| Parameter: | Light scattering coefficient of particles σ_{sp} at (450, 525 or 635nm) |
| Ranges: | <0.25 to >2 000 Mm^{-1} |
| Lower Detectable limit: | <0.3 Mm^{-1} (60 second averaged data) |
| Secondary Measurements: | Sample air temperature, chassis temperature, relative humidity and sample pressure |
| Flow rate: | ≈ 5 l/min |
| Operating Temperature: | 0 to 45°C |
| Operating RH: | 10 to 95% |
| Calibration: | Span gas selection and calibration values for CO ₂ , SF ₆ , FM- 200, R-12, R-22, R-134 or a user defined gas |
| Outputs: | 4 analogue outputs (2 voltage & 2 current) and RS 232 multidrop serial port |
| Filtering: | Kalman (digital adaptive filter), Moving average (30 seconds) or no filter |
| Optics: | Reference brightness measurement |
| Light source: | Stable LED light source |
| Wavelength: | 525nm (green), 450nm (blue) or 635nm (red) |
| Operating Voltage: | 110-240 VAC 50/60 Hz or 12 VDC (60 watts with heater active) |
| Stored Parameters: | Date & Time, σ_{sp} (635, 525 or 450), Air temp, Enclosure temp, RH, Pressure, Status |
| Capacity: | Maximum of 45 days of 5 minute averages, or 10 days of 1 minute averaged data |
| Dimensions: | 170mm x 700mm x 215mm (L x W x H) |
| Weight: | 11.2kg |
| Options: | Additional sample tube Roof flange kit Rain cap with insect screen Gas Calibration kit Wall mount bracket |

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