

RUGGED AIR QUALITY SENSOR AX500



- Highly accurate and reliable indicative air quality sensor
- Measures five gases (NO, NO₂, CO, SO₂, O₃) and particulate matter (PM1, PM2.5, PM10)
- Automatic sensor cleaning system using compressed air — suitable for operation in high-dust environments and regions prone to sandstorms

Applications

- Robust air quality monitoring in dust-laden environments and areas prone to sandstorms
- Indicative air quality monitoring in urban settings
- Air quality and gas monitoring in industrial facilities
- Continuous gas monitoring in sewer systems

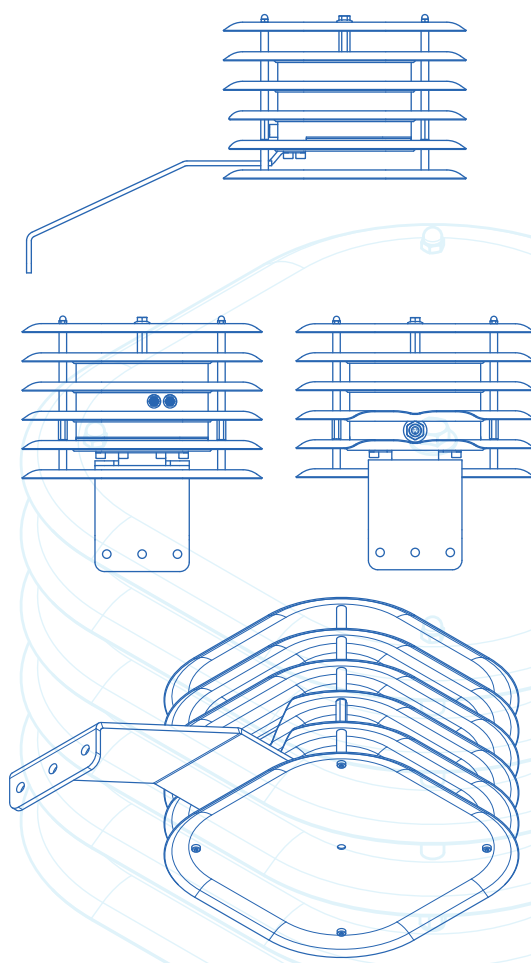
Product Description

The Geolux AX500 (powered by SmartSense) is a rugged air quality sensor designed for precise detection and measurement of five key atmospheric gases (NO, NO₂, CO, SO₂, O₃) and particulate matter concentrations (PM1, PM2.5, PM10). The sensor delivers high measurement accuracy and strong data correlation. It is engineered for reliable operation in extremely demanding conditions, such as environments with elevated dust levels or frequent sandstorms.

The AX500 features an automatic cleaning system, utilizing an integrated air compressor and compressed air tank to purge accumulated particles from the sensing elements. This ensures consistent performance and sustained measurement accuracy.

The sensor's electronic architecture is optimized for low-power operation, enabling periodic measurements rather than continuous monitoring. The device can quickly initialize after power-up and begin providing data without delay.

A robust aluminum enclosure with integrated solar radiation shielding enables stable operation in hot climates without compromising measurement precision. The AX500 supports multiple communication interfaces, including Modbus, SDI-12, and RS-232, ensuring seamless integration with a wide range of standard data loggers and monitoring systems.



AX500

Detailed Specifications

Model Name	AX500	
Gas Detection	NO, NO2, CO, SO2, O3	
Particulate Matter Detection	PM1, PM2.5, PM10	
Sensor Cleaning	Air pressure cleaning through air compressor with 0.2 liter compressed air tank	
NO Sensor Parameters	Range:	0-3000 ppb
	Resolution:	1 ppb
	Precision ¹ :	5 ppb
	Correlation coeff. ² :	> 0.85
NO₂ Sensor Parameters	Range:	0-6000 ppb
	Resolution:	1 ppb
	Precision ¹ :	6 ppb
	Correlation coeff. ² :	> 0.85
CO Sensor Parameters	Range:	0-10000 ppb
	Resolution:	1 ppb
	Precision ¹ :	30 ppb
	Correlation coeff. ² :	> 0.80
SO₂ Sensor Parameters	Range:	0-5000 ppb
	Resolution:	1 ppb
	Precision ¹ :	6 ppb
	Correlation coeff. ² :	> 0.80
O₃ Sensor Parameters	Range:	0-6000 ppb
	Resolution:	1 ppb
	Precision ¹ :	6 ppb
	Correlation coeff. ² :	> 0.85
PM1 Sensor Parameters	Range:	0-1000 µg/m ³
	Resolution:	0.1 µg/m ³
	Precision ¹ :	3 µg/m ³
	Correlation coeff. ² :	> 0.85
PM2.5 Sensor Parameters	Range:	0-1000 µg/m ³
	Resolution:	0.1 µg/m ³
	Precision ¹ :	2 µg/m ³
	Correlation coeff. ² :	> 0.85
PM10 Sensor Parameters	Range:	0-3000 µg/m ³
	Resolution:	0.1 µg/m ³
	Precision ¹ :	3 µg/m ³
	Correlation coeff. ² :	> 0.80
Recalibration Period	2 years	
Enclosure IP Rating	IP54, for outdoor use	
Interfaces	RS-232, Modbus-RTU (RS-485), SDI-12	
Connector	M12 circular 12-pin	
Input Voltage	9 to 27 VDC	
Operating Temperature Range	-40 °C to +85 °C	
Operating Humidity Range	0 to 99 % RH	
Enclosure Dimensions	252 mm x 252 mm x 170 mm	

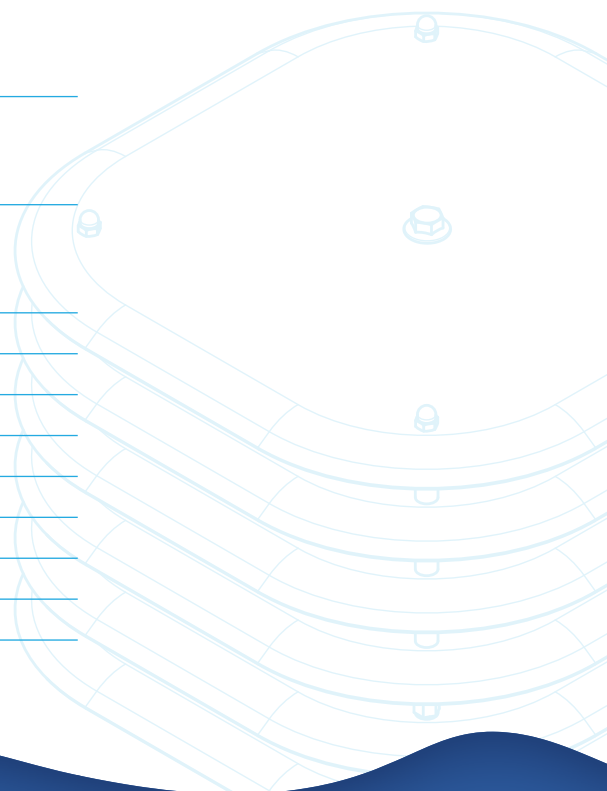
1.Precision is measured as typical mean absolute difference from average reading of the collocated group of calibrated Senses monitoring stations under same test conditions based on 1 hour averages. Values may differ depending on test conditions.

2.Correlation coefficient represents typical R² of the calibrated sensor against reference instrument in the field test under different environmental conditions based on 1 hour averages. Values may differ depending on test conditions.

FCC & CE **APPROVED**

MADE IN **EU**

powered by  **smartsense**



For more information, contact us:

Phone: +385 1 6701 241

E-mail: geolux@geolux.hr