

Sensorbee

Multi-Sensor Monitoring Station

Catalog 2025





Sensorbee is a fast-growing provider of comprehensive environmental monitoring solutions based in Linköping, Sweden. We deliver advanced hardware for monitoring air quality, noise, dust, and vibration (NDV), paired with intuitive software and actionable data insights. Our solutions support construction companies, governments, and businesses in meeting compliance standards and improving environmental quality.

Our mission is to create a safer, more sustainable future by making air quality and environmental monitoring simpler, more affordable, and highly effective for industries and communities worldwide.



Reliable Data in a Compact Design

Sensorbee's air quality system comes with high-accuracy sensors that offer dependable data. The device has a built-in buffer to store data during network or power outages. Weighing just 1.9 kg, it's easy to fit into various urban environments.



Easy to Connect & Solar-Powered

Designed for effortless setup and powered by solar panels, ensuring continuous operation with minimal energy use, even in remote locations.



Versatile Connectivity

Our low-energy design and rechargeable batteries make it simple to power the device with a solar panel or street light. We use energy-efficient GSM technologies like NB-IoT and LTE-M to ensure reliable long-distance coverage.



Easy to Use

Sensorbee's user-friendly web interface allows you to easily manage your air quality system. Set up remote data collection, view real-time information, and receive crucial alerts, all from your web browser. Adding a new Sensorbee unit is simple—just scan its QR code using an Android/iOS device or computer.



Flexible External Options

The Sensorbee Air Pro 2 comes with an expansion port that makes adding external sensors straightforward. This port supports Modbus RS-485, so you can plug in any type of sensors to get more kinds of environmental data. It's a simple way to make your air quality system even more powerful and give you a wider view of what's happening in the environment, all without making things too complicated.



Ambient Noise

Sensorbee's Ambient Noise Module is an additional hardware component available that enables your Air Quality Sensors to measure real-time noise levels in dBA. With this module, you can simultaneously monitor air quality and noise levels, enhancing the scope of your environmental monitoring with your Sensorbee devices.

How Does It Work?

1



THE SENSORS

Our sensors runs on solar power or external power.

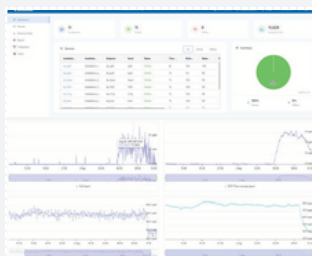
2



THE DATA

Real-time pollutant data transmitted over cellular network.

3



CLOUD SERVICES

Sensors and data can be managed and stored either in Sensorbee's cloud services or on customer-specific cloud servers..

4



ACCESS YOUR DATA

You can access and utilize your data through the Sensorbee Web Interface or via the API for third-party integration.

Sensorbee Cloud

- **Turnkey Environmental Monitoring:** A comprehensive solution for noise, dust, and vibration, ensuring continuous operation and reliable data.
- **Quick Setup & Real-Time Insights:** Rapid deployment with AI-powered analytics for instant decision-making and compliance.
- **Integrated Project Management:** Streamlined project tracking and automated reporting for efficient regulatory adherence.



Access to System
Web



Device/Back-end protocol
LWM2M



Sensor Data Download
CSV file



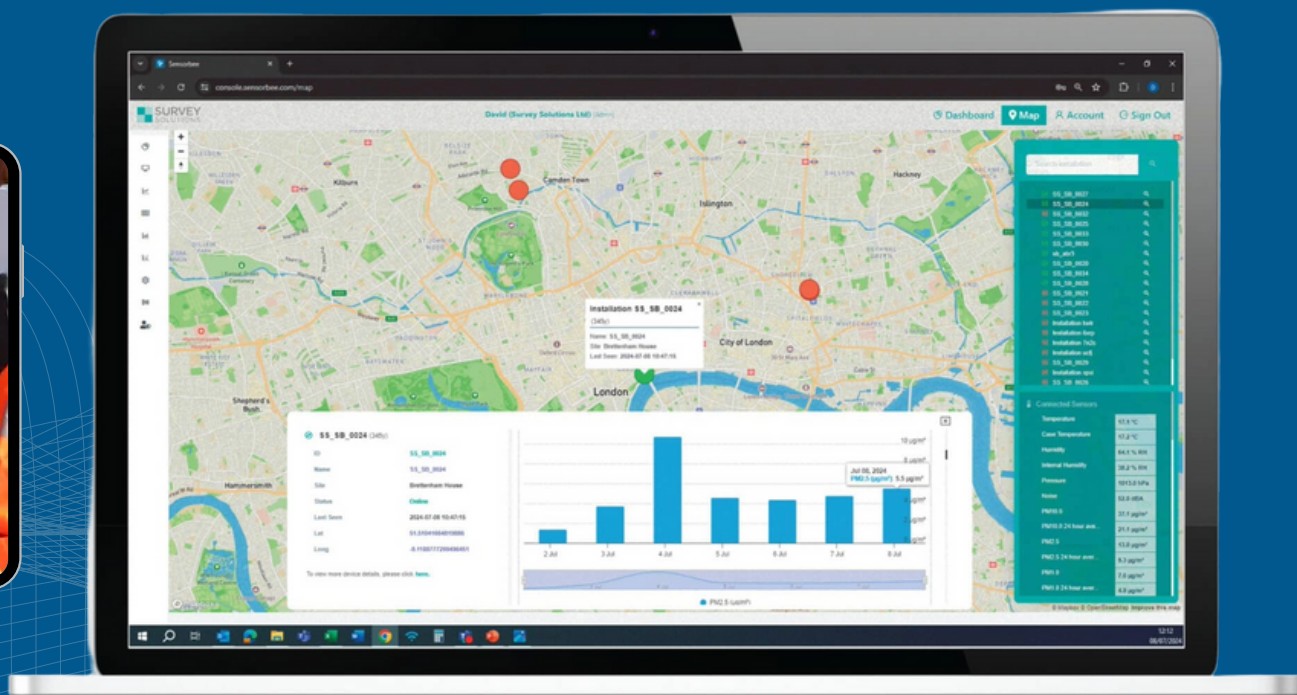
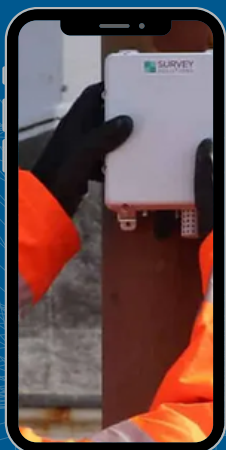
API Sensorbee cloud
PUSH API, REST API



Notifications
Email, SMS



Project Management
Smart project management



Pro2 Multi-Sensor Monitoring Station

The Sensorbee Air Pro 2 Cellular is a professional air environmental monitoring device. It uses solar power to measure dust, temperature, humidity, and gases. It can connect to extra sensors and shares data via mobile networks. This tool is designed for efficient and eco-friendly monitoring, useful for advanced environmental research and urban management.



SB8202 - Air Pro 2 Cellular



Communication & Remote Management:

LTE-M or NB-IoT (Nano SIM)
Sensorbee Cloud (LwM2M ≥ 1.1)



External Sensor Connectors:

- M8 conn. for Sensorbee Provided sensors
- M12 8pin conn. for Modbus RTU sensors (5V / 12V support)



Dimensions, Weight & Material:

145 x 200 x 80 mm, 1.9 kg,
Polyamide



Power Input: 5 to 24 VDC
Internal Battery: 20 Ah



Regulatory Compliance:
CE



Modules Supported:

6 Sensorbee gas modules (not included)
Sound Level Meter (not included)



Operating Temperature & Humidity:

(Recommended) -20 to +60 °C,
0 to 99 %RH



Mounting:

Pole/Wall mounting bracket

INCLUDED MODULES :

Particle Sensor Module: (SB4102):

Type : Optical particle counter

Mass size Range: PM1, PM2.5, PM10

Number size Range: PM1, PM2.5, PM10

Temperature Sensor Module (SB4602):

-20 to 50 °C: ± 0.1 °C

EnviroSense Sensor Module (SB4502):

Humidity: 0 to 100 %RH, 15 to 55 °C: ± 1.0 %RH

VOC: 0 to 1000 ppm (VOC Index 0 to 500)

NOX: 0 to 10000 ppb (NOX Index 0 to 500)

Pressure: 300 to 1250 hPa ± 0.5 hPa

Sensorbee Particle Matter Module

The Particle Matter Module, are a rugged high accuracy sensor built for outdoor use.

It have a high air flow rate for robust PM10 readings, as well as heating element that make help improve accuracy in high humidity situations.



SB4102 - Particle Matter Module

PARTICLE SENSOR:



Type:

Optical particle counter



Heating element:

Heating element active when >60% humidity.



Airflow: 2.5 lpm

Resolution: 1 $\mu\text{g}/\text{m}^3$



Concentration Ranges:

0 to 1000 $\mu\text{g}/\text{m}^3$ Mass Concentration

0 to 2600 $\#/\text{cm}^3$ Number Concentration

Mass Concentration Range & Precision:

PM1.0: 0.3-1.0 μm part.size - $\pm 5\%$ precision($\mu\text{g}/\text{m}^3$)

PM2.5: 0.3-2.5 μm part.size - $\pm 5\%$ precision($\mu\text{g}/\text{m}^3$)

PM10: 0.3-10.0 μm part.size - $\pm 10\%$ precision($\mu\text{g}/\text{m}^3$)

Number Concentration (PC) Range & precision:

PM1.0: 0.3-1.0 μm part.size - $\pm 5\%$ precision($\#/\text{cm}^3$)

PM2.5: 0.3-2.5 μm part.size - $\pm 5\%$ precision($\#/\text{cm}^3$)

PM10: 0.3-10.0 μm part.size - $\pm 10\%$ precision($\#/\text{cm}^3$)

MODULE:



Dimensions: 70 x 60 x 26 mm

Weight: 65 gram



Enclosure:

Polyamide



Operational Life:

>2 Years



Operating Temperature:

-20 to +60°C



Recommended Humidity range:

0 to 95 %RH



Individually calibrated:

Module is individually 3-point-calibrated, and shipped with its own calibration certificate.

Sensorbee Sound Level Meter

The Sensorbee Sound Level Meter is an Add-on product that can be added to the Pro2 unit. It captures real-time noise data with an integrated microphone, analyzes it in A-weighted decibels for human hearing. Configurable alerts and data reporting comply with EU noise regulation directives.



SB4652 - Sound Level Meter



Measurement Range:

20 Hz to 10 kHz
40 to 100 dBA ± 2 dBA



Measurement units:

LAeq (A-weighted Equivalent Continuous)
LAFmax, LAFmin
L05, L10, L50, L90, L95



Dimensions:

$\varnothing 12.8 \times 45$ mm



Typical accuracy:

± 1 dB(A)



Module Operational Life:

2+ Years



Mounting:

Onto Pro2 base unit



Weight:

10 gram



Enclosure:

Polyamide



Operating Temperature:

-20 to +60°C



Operating Humidity:

0 to 99 %RH

Sensorbee Class 1 Noise Sensor

The Sensorbee Sound Level Meter is a robust add-on designed for seamless integration with the Pro2 unit via Modbus. Engineered for outdoor use with an IP65-rated protective housing, it features a precision measurement chain designed in accordance with IEC 61672-1 / GB/T 3785-1 and delivers IEC 61672-1 Class 1 performance (factory-verified) for A/Z frequency weighting, Fast/Slow time weightings. Verified results include 1dB-step errors $\leq \pm 0.3$ dB, total linearity $\leq \pm 0.8$ dB over 25–130 dB, self-noise < 19 dB(A). Calibration is via a standard 94 dB, 1kHz acoustic calibrator.



SB4651 - Sound Level Meter



Standards:

IEC 61672-1 Class 1, GB/T3785-1 performance. CE EMC compliance



Measurement units:

LAeq (A-weighted Equivalent Continuous)
LAmax, LAmin



Dimensions:

Ø76mm x 300mm



Power Supply:

DC 5V



Calibration interval:

once per year



Wide Dynamic Range:

Measures from 25 dBA up to 130 dBA with a
dynamic range of ≥ 110 dB
Frequency Range: 10Hz~20kHz



Mounting:

Flat area or pole mount



Weight:

300 gram



Enclosure:

Stainless Steel, IP-rated and
Polyamide



Interface protocol to Pro2 unit:

Modbus RTU



Operating environment:

0 to 90 %RH
-10°C to +50°C

Sensorbee Vibration Sensor

The SB3641 is a durable triaxial vibration sensor for monitoring construction, blasting, and traffic vibrations. It connects seamlessly with the Sensorbee Pro2 base via Modbus RTU and is built for long-term use in harsh environments with its IP67 weatherproof housing. The SB3641 provides real-time data on Peak Particle Velocity (PPV), Peak Component Particle Velocity (PCPV), and frequency spectrum, offering precise insights for infrastructure and environmental monitoring.



SB3641 - Sensorbee Vibration sensor



Velocity range:

± 50 mm/s



Operating Temperature:

-30 to +60 °C



Power:

5 to 24VDC



RMS noise:

0.05 mm/s



Temperature Sensor:

-20 to 50 °C: ± 0.1 °C



Dimensions:

100 x 100 x 30 mm



Interface:

Sensorbee extension port (M8)



Operating Humidity:

0 to 99 %RH



Weight:

350 gram



Waterproof Rating:

IP67



Regulatory Compliance:

CE



Power:

7 mW



Bandwidth:

1 to 100 Hz. Signals are sampled at 4096 Hz.



Housing:

Aluminium with 5 mm plate.
Dimensions: 100 x 100 x 30 mm.



Cable length:

2.5m



Connectivity:

Compatible with Sensorbee Air quality units, using the M8 extension port (Modbus RTU)



Compliance Standards:

BS 7385-1, BS 6472-1



Output Data:

PPV,
PCPV (X, Y, Z),
Peak Frequency (X, Y, Z),
PPV FFT spectrum peak amplitude,
Temperature



Data Visualization:

The Sensorbee Cloud Platform displays sensor data in real-time and historical views, offering detailed visualizations such as PPV graphs, PCPV/frequency plots, and FFT analysis.

Sensorbee EnviroSense Module



SB4502 EnviroSense Module



Sensor type:
Photoacoustic



Humidity Accuracy:
0 to 95 %RH: ± 1.5 %RH
95 to 100 %RH: ± 1.75 %RH
(20 to 75 %RH (15 to 55 °C): ± 1.0 %RH)



Pressure:
300 to 1250 hPa ± 0.5 hPa



VOC and NOX Index:
VOC: 0 to 1000 ppm (VOC Index 0 to 500)
NOX: 0 to 10000 ppb (NOX Index 0 to 500)



Regulatory Compliance:
CE



Dimensions:
 $\varnothing 20$ mm x 24 mm



Weight:
5 gram



Enclosure:
Polyamide



Operating Temperature:
-20 to +60 °C



Operating Humidity:
0 to 100 %RH



Module Operational Life:
> 2 years

Sensorbee Carbon Dioxide Gas Sensor (CO2)



SB4212 - Carbon Dioxide Sensor (CO2)



Sensor type:
Photoacoustic



Dimensions:
Ø20 mm x 24 mm



Measurement Range:
Maximum 0 to 40,000 ppm
Specified Range 400 to 5,000 ppm



Weight:
8 gram



Measurement Accuracy:
400 to 1,000 ppm: $\pm (50 \text{ ppm} + 2.5 \%)$
1,001 to 2,000 ppm: $\pm (50 \text{ ppm} + 3 \%)$
2,001 to 5,000 ppm: $\pm (40 \text{ ppm} + 5 \%)$



Enclosure:
Polyamide



Resolution:
1 ppm



Operating Temperature:
-10 to +60 °C



Response Time:
< 60 sec

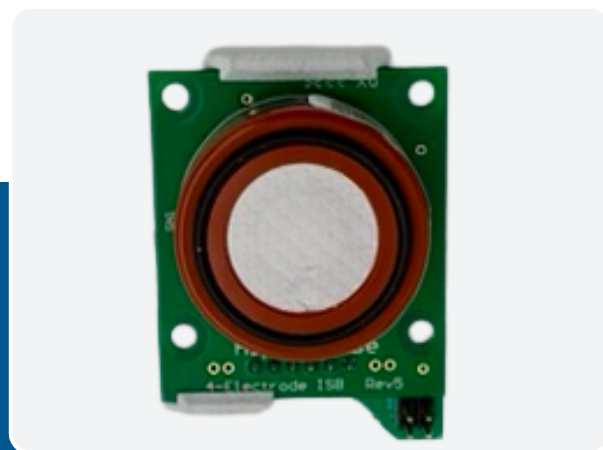


Operating Humidity:
0 to 95 %RH



Module Operational Life:
> 3 Year

Sensorbee Nitrogen Dioxide (NO₂) Gas Sensor



SB4202 - Nitrogen Dioxide Sensor (NO₂)



Measurement Range:

0 - 10,000 ppb



Resolution:

1 ppb



Limit of detection:

3 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:

4 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:

< 80 sec



Guarantee range:

20 ppm



Typical Accuracy:

±7 ppb



Sensor type:

Electrochemical



Dimensions & Weight:

55 x 40 x 30 mm, 25 gram



Enclosure:

Polyamide



Operating Temperature:

-30 to +40 °C



Operating Pressure:

800 to 1200 hPa



Operating Humidity:

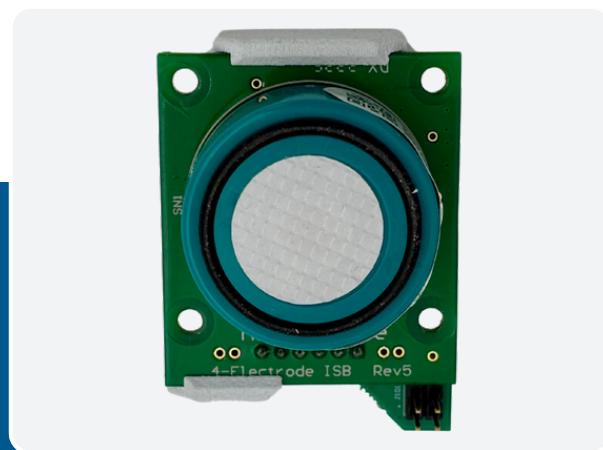
15 to 85 %RH



Module Operational Life:

> 1 Year

Sensorbee Nitric Oxide (NO) Gas Sensor



SB4242 - Nitric Oxide Sensor (NO)



Measurement Range:
0 - 5,000 ppb



Resolution:
1 ppb



Limit of detection:
3 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:
4 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:
< 45 sec



Guarantee range:
20 ppm



Typical Accuracy:
 ± 7 ppb



Sensor type:
Electrochemical



Dimensions & Weight:
55 x 40 x 30 mm, 25 gram



Enclosure:
Polyamide



Operating Temperature:
-30 to +50 °C



Operating Pressure:
800 to 1200 hPa

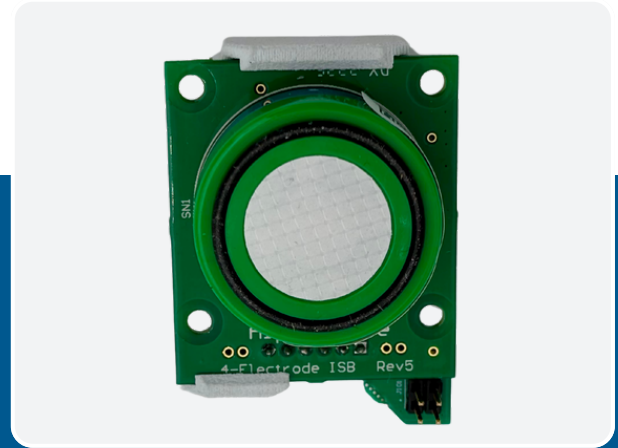


Operating Humidity:
15 to 85 %RH



Module Operational Life:
> 1 Year

Sensorbee Carbon Monoxide (CO) Gas Sensor



SB4262 - Carbon Monoxide sensor (CO)



Measurement Range:

0 - 7,000 ppb



Resolution:

10 ppb



Limit of detection:

10 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:

20 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:

< 30 sec



Guarantee range:

1000 ppm



Typical Accuracy:

±80 ppb



Sensor type:

Electrochemical



Dimensions & Weight:

55 x 40 x 30 mm, 25 gram



Enclosure:

Polyamide



Operating Temperature:

-30 to +50 °C



Operating Pressure:

800 to 1200 hPa



Operating Humidity:

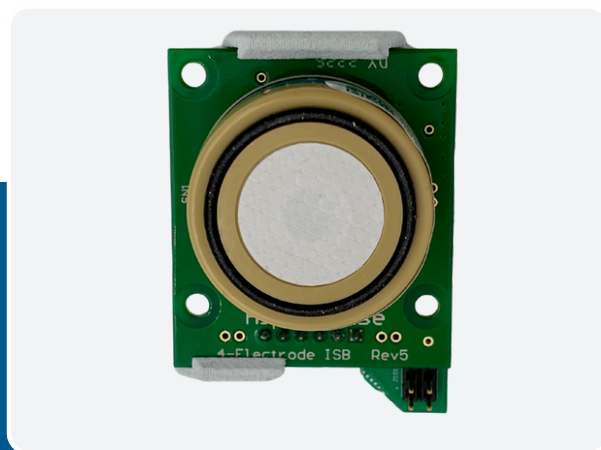
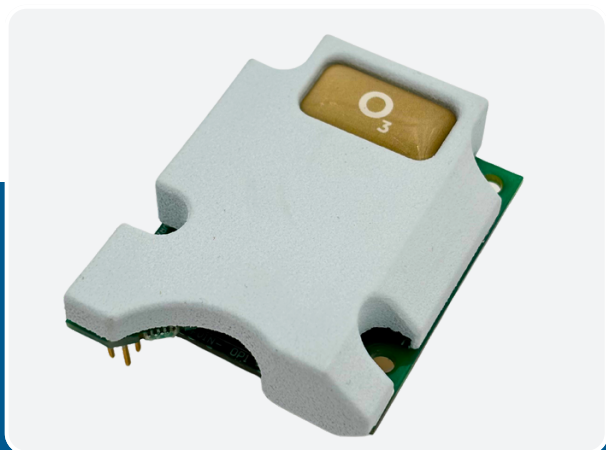
15 to 90 %RH



Module Operational Life:

> 1 Year

Sensorbee Ozone (O3) Gas Sensor



SB4272 - Ozone Sensor (O3) (+ NO2)



Measurement Range:

0 - 10,000 ppb



Resolution:

1 ppb



Limit of detection:

3 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:

4 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:

< 80 sec



Guarantee range:

20 ppm



Typical Accuracy:

±8 ppb



Sensor type:

Electrochemical



Dimensions & Weight:

55 x 40 x 30 mm, 25 gram



Enclosure:

Polyamide



Operating Temperature:

-30 to +40 °C



Operating Pressure:

800 to 1200 hPa



Operating Humidity:

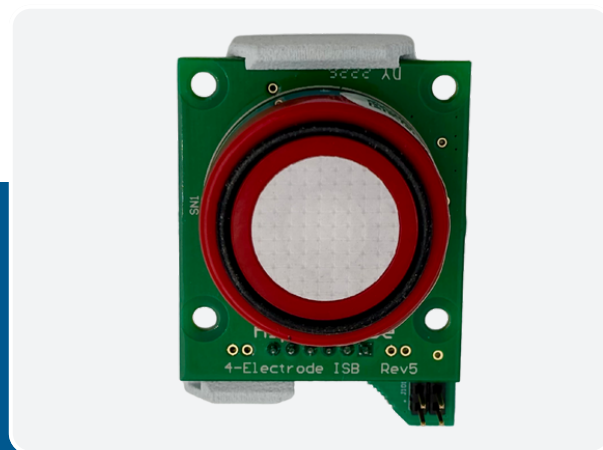
15 to 85 %RH



Module Operational Life:

> 1 Year

Sensorbee Sulfur Dioxide (SO₂) Gas Sensor



SB4252 - Sulphur Dioxide Sensor (SO₂)



Measurement Range:

0 - 10,000 ppb



Resolution:

1 ppb



Limit of detection:

3 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:

5 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:

< 80 sec



Guarantee range:

20 ppm



Typical Accuracy:

±15 ppb



Sensor type:

Electrochemical



Dimensions & Weight:

55 x 40 x 30 mm, 25 gram



Enclosure:

Polyamide



Operating Temperature:

-30 to +40 °C



Operating Pressure:

800 to 1200 hPa



Operating Humidity:

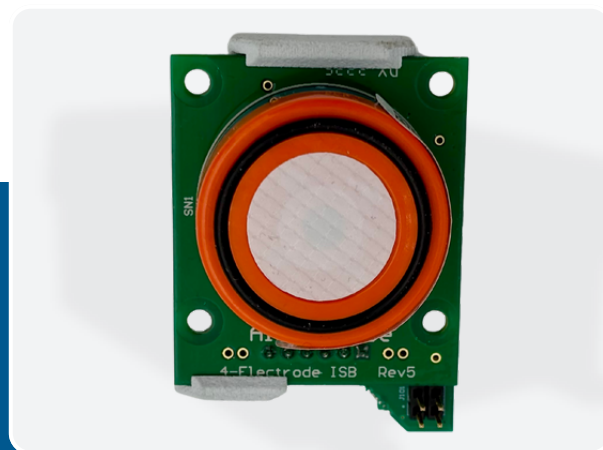
15 to 85 %RH



Module Operational Life:

> 1 Year

Sensorbee Hydrogen Sulfide (H₂S) Gas Sensor



SB4282 - Hydrogen Sulfide Sensor (H₂S)



Measurement Range:

0 - 2,000 ppb



Resolution:

1 ppb



Limit of detection:

2 ppb (Spec:CEN/TS 17660-1:2022)



Repeatability:

4 ppb (Spec:CEN/TS 17660-1:2022)



Response Time:

< 55 sec



Guarantee range:

100 ppm



Typical Accuracy:

±10 ppb



Sensor type:

Electrochemical



Dimensions & Weight:

55 x 40 x 30 mm, 25 gram



Enclosure:

Polyamide



Operating Temperature:

-30 to +50 °C



Operating Pressure:

800 to 1200 hPa



Operating Humidity:

15 to 90 %RH



Module Operational Life:

> 1 Year

Sensorbee Wind Speed & Direction Sensor

The ultrasonic wind sensor delivers precise measurement of both wind speed and direction using advanced ultrasonic technology. With no moving parts, this sensor offers long-lasting performance and minimal maintenance. The wind sensor seamlessly integrates with the Sensorbee Pro series.



SB3611 - Wind Speed & Direction Sensor

**Wind Speed Range:**

0.0 to 45 m/s

**Accuracy:**

1% RMS at 10 m/s

**Theshold:**

1 m/s

**Wind accuracy:**

0.12 m/s

**Direction accuracy::**

$\pm 1^\circ$ RMS at 10 m/s

**Direction accuracy:**

$\pm 1.5^\circ$

**Dimensions:**

330 x 65 x 230 mm

**Weight:**

450 gram

**Operating Temperature:**

-15 °C to +55 °C

**Operating Humidity:**

0 to 100 %RH

**Module Operational Life:**

> 2 Year

**Mounting bracket**

universal wall / pole bracket
2x metal hose clamp included

Sensorbee Wind & Rain Combo Sensor

Innovating all-weather monitoring, the Sensorbee SB3602 merges advanced ultrasonic wind measurement with optical infrared rainfall detection in one maintenance-free unit. Its robust, no-moving-parts design ensures long-lasting performance. With 0.2mm rainfall resolution and wind speed up to 45 m/s, it easily integrates with Sensorbee systems for real-time data on both wind and precipitation in a single durable sensor.



SB3602 - Sensorbee Wind & Rain Combo Sensor



Wind Measurement Method:
Ultrasonic wind measurement



Wind Speed Range:
0.0 to 45 m/s



Wind Accuracy:
1% RMS at 10 m/s, with 1 m/s threshold



Wind Direction accuracy:
 $\pm 1^\circ$ RMS at 10 m/s



Precipitation Measurement Method:
Infrared optical sensor



Resolution & Accuracy:
0.2 mm, $\pm 10\%$



Dimensions:
330 x 65 x 230 mm



Weight:
950 gram



Operating Temperature:
Wins Sensor: -15°C to $+55^\circ\text{C}$
Rain Sensor: 0°C to $+55^\circ\text{C}$



Operating Humidity:
0 to 100 %RH



Module Operational Life:
> 2 Year



Mounting bracket
universal wall / pole bracket
2x metal hose clamp included

Sensorbee

Solar Panel

The 14W solar panel offers flexible mounting options for installations on poles or walls. With adjustable angle to maximize sun exposure, this panel provides a sustainable and efficient power solution. It can easily be connected to the Air Cellular products.



■ SB6103 - 14W Solar Panel



Dimensions:

290 x 280 x 110 mm



Weight:

1.3 kg



Operating Temperature:

-30 to +60 °C



Operating Humidity:

0 to 99 %RH



Cable Length:

0.5 m cable with M8F-4 connector



Mounting:

Pole/Wall mounting
2x Steel Hose Included



Regulatory Compliance:

CE

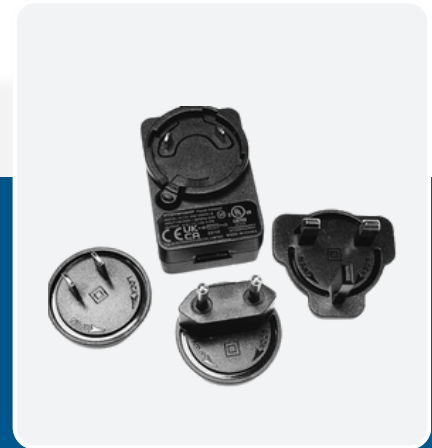
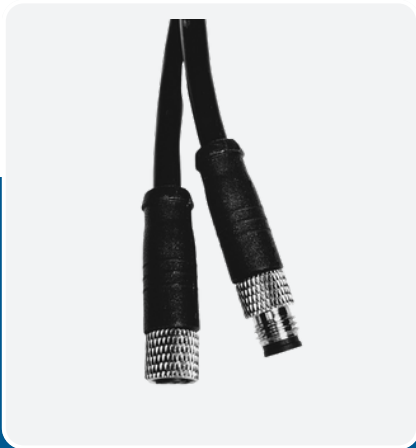
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Power Cable

The Sensorbee Pro Cellular and Lite Cellular systems offer multiple power options, compatible with fixed sources or solar panels.

A M8 to USB power cable is available, and can be easily adapted for a 12V source. If the distance between the solar panel and the system is too short, a 2M-long M8-M8 extension cable is available for added reach.

An indoor 5V 1A USB adapter with interchangeable blades is also offered.



- **SB9013 - 5m USB Power Cable**
- **SB9022 - 2m Power Cable Extender**
- **SB9031 - 5V 1A USB Power Adaptor**

SB9013 Power Cable:

5M Length, M8 to USB-A connector

SB9022 Power Cable Extender:

2M Length, Male M8 to female M8 connector

SB9031 Power Adaptor:

5V 1A USB Power Adapter

Input: 100 to 240VAC

Output: 5 VDC, 1 A, USB-A Connector

Included blades: EU, UK, US

Operating Temperature: 0 to +40 °C

Operating Environment: Indoor

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External Sensor Cable

Extension cables for external sensors are available to ensure flexible placement options. These cables come in lengths of 1m (SB9112), 2m (SB9114), and 5m (SB9116). Each cable features two 6 pins M8 connectors, one male and one female.

For setups requiring multiple connections, a Y-splitter (SB9131) is provided, allowing for the simultaneous connection of two or more devices.



- **SB9112 - 1 m Sensor Cable**
- **SB9114 - 2 m Sensor Cable**
- **SB9116 - 5 m Sensor Cable**
- **SB9131 - Sensor Cable Splitter**

SB9112:
1 m Sensor Cable Extender

SB9114:
2 m Sensor Cable Extender

SB9116:
5 m Sensor Cable Extender

SB9131:
Sensor Y-Type Cable Splitter
2 to 1 Y Splitter
Female ; Female ; Male

Notes for Gas sensor modules

Measurement Range:

The concentration range over which the sensor can measure gas levels.

Resolution:

The smallest measurement unit that the sensor can read gas level.

Limit of Detection:

For all our electrochemical gas sensors, the Limit of Detection is defined as the minimum gas concentration that can be reliably distinguished from zero concentration under laboratory conditions (20 °C and 50% relative humidity). This measurement is determined according to the methodology specified in Technical Specification CEN/TS 17660-1:2022.

Repeatability:

For all our electrochemical gas sensors, repeatability refers to the closeness of agreement between successive measurements of the same gas concentration conducted under identical laboratory conditions (20 °C and 50% relative humidity). This parameter is determined according to the methodology specified in Technical Specification CEN/TS 17660-1:2022.

Typical Accuracy:

For our electrochemical gas sensors, the Typical Accuracy denotes the expected level of agreement between the sensor's readings and the actual gas concentration under normal operating conditions. This metric is based on statistical analyses of sensor performance across various environments and temperature ranges.

Guarantee Range:

The concentration range within which Sensorbee guarantees the sensor's performance meets specified standards.

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