



sensorbee

Sensorbee Air Quality Monitoring Solution



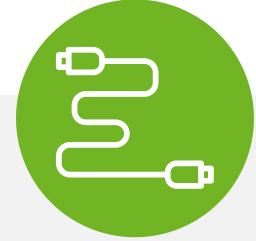
Quality Data in a Small Form Factor

The Sensorbee air quality system features many advanced sensors, providing precise data using calibrated sensors. Sensor data is buffered during network or power outages. Weighing 0.5 kg, the unit blends into city landscapes seamlessly.



Seamless Connectivity & Powered by Solar Panel

Low-power design and rechargeable batteries enable easy solar panel or street light power usage. It utilizes low-power GSM technology NB-IoT and LTE M for dependable long-range coverage. The integrated GPS identifies and shows all connected units, simplifying maintenance and planning.



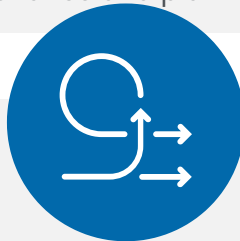
Versatile Connectivity with Modbus RS 485

Sensorbee provides air quality solutions with Modbus RS 485 connectivity for seamless integration into diverse systems and use cases. Our advanced technology ensures adaptability across applications and environments.



Ease of use

Sensorbee's sleek and user-friendly app interface offers access to the modular system. It enables remote data collection setup, live vital information control, and critical data alerts. Effortlessly register each Sensorbee Air Quality unit via QR code using an Android/iOS device or computer.



Flexibility

Every Sensorbee Air Pro base unit includes two ports for connecting external power and sensors. Various external sensors, such as weather station sensors, can be integrated into the system to enhance its capabilities.



Ambient Noise

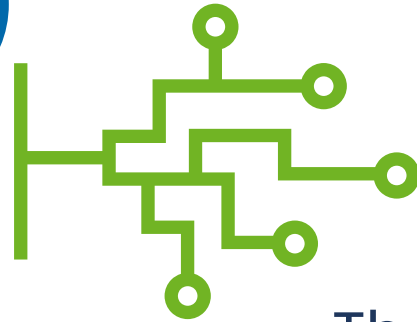
Meet Sensorbee's Ambient Noise Enhancer, a smart software upgrade for Air Quality Sensors. With cutting-edge dBA tech, it enables real-time noise monitoring alongside air quality metrics through your existing Sensorbee devices. A feature to elevate your environmental monitoring capabilities!

How does it work?



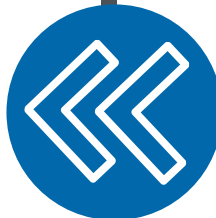
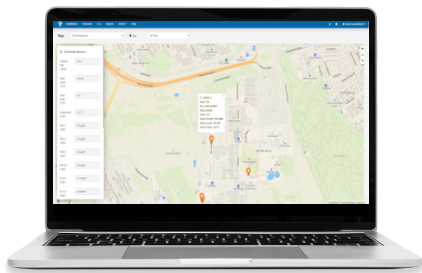
The Sensors

Our sensors are powered by solar panels or Power Supply.



The data

Real-time pollutants and data sent via the cellular network.



Storage and conversion

The data is stored and converted in the Sensorbee Cloud or the device is connected directly to a third-party cloud server.



Access your data

You access and use your data via the Sensorbee Web App or through the third party user interface.



Sensorbee Cloud and Apps

Sensorbee support several back-ends by integrating LWM2M protocol in the devices. This gives access to a multitude of back-ends that support this protocol as well as Sensorbee portal. You can start using the Sensorbee portal and later move to other Back-end. Azure IoT and Amazon IoT cloud services can also be used by an existing integration.

The Sensorbee portal provides a view of the historical data and update the different settings such as Sampling Time Interval and Alert Notifications.

Mobile Apps available for easy installation.

Access to System

Web portal

Device/Back-end protocol

LWM2M

API Sensorbee cloud

Azure IoT and Amazon IoT integrations

PUSH API and REST API

Sensor Data Download

From Portal export data to CSV file, raw data or in specific periods

Fleet Health and settings

Handled by LWM2M Server

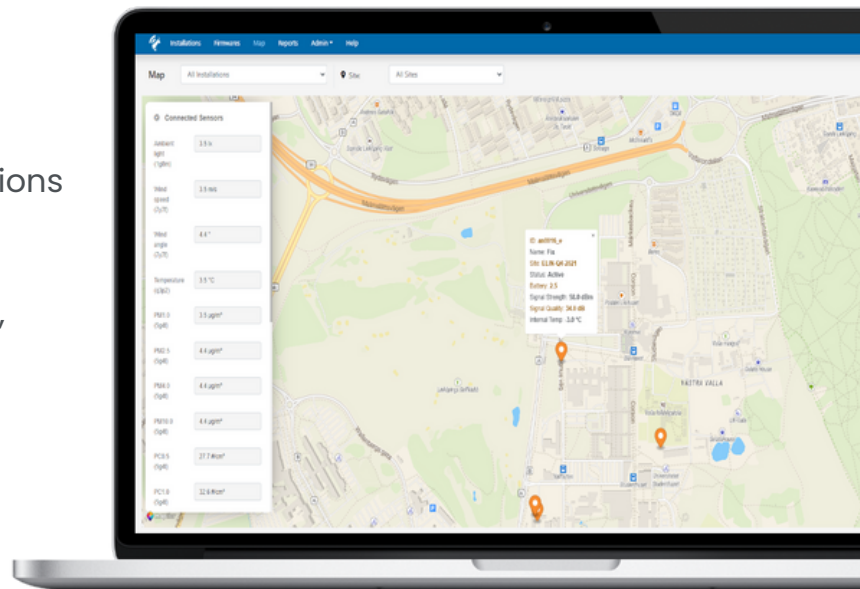
Settings, Connection, GPS Battery, error logs

Firmware Update

Handled by LWM2M Server

Notifications

Email and SMS



LightweightM2M
specified at oma

Sensorbee Air Pro Cellular

Sensorbee Air Pro, is a versatile air quality monitoring solution for cities, industries, and researchers. This modular system measures particles, temperature, humidity, and up to three gases, with options to add, noise, wind, rain, and more to fit your needs.

Offering real-time data access via mobile networks, NB-IoT, and LTE-M connectivity, and featuring easy installation, low ownership cost, and solar panel compatibility, it's an eco-friendly choice for monitoring.



Product specification type SKU SB3323 and SB3324

Communication & Remote Management

LTE Cat M1 or NB-IoT with Nano SIM card
Sensorbee Cloud or a LWM2M 1.1 Server

Dimensions, weight & material

81 x 56 x 148 mm, 0.5kg
Polycarbonate & Polyamide

Operating Temperature & Humidity

-20 °C to +60 °C, 0 to 99 %RH

Power Connector

Source 5V-12V, 0.1-2W or Solar Panel

Regulatory Compliance: CE Mark

Mounting: Pole/Wall mounting bracket

External Sensor Connector: 1

Versions Battery

SB3323 for use in general climate
(3400 mAh batteries)

SB3324 for optimal battery function in sub-zero degree climates (2800 mAh, Low-temp batteries)

Modules Supported

3 Sensorbee gas modules (not included)

Included Module (SB3516):

Particle Sensor

Type: Optical particle counter

Mass size Range: PM1, PM2,5, PM10

Sample Flow Rate: 0.1 LPM

Temperature & Humidity Sensor

-40°C...60°C, ± 0.3°C, 0...100 %RH, ±3 %RH

VOC: 0 to 1,000 ppm (VOC Index 0-500)

NOX: 0-10,000 ppb (NOX Index 0-500)

Pressure: 300 ... 1250 hPa, ±0.50 hPa

Noise Meter (extra license required)

55-100 dBA (20-10kHz, acc: ±4 dBA)

Module Operational Life: 24 months

Sensorbee Air Lite Cellular

Sensorbee Air Lite, a cost-effective air quality solution for mass deployment or complementing Air Pro. Ideal for monitoring particulate matter, temperature, humidity, and noise via a software add-on license. Access real-time data through mobile networks, NB-IoT, and LTE-M connectivity.

This eco-friendly, non-modular device ensures easy installation, flexibility, and low ownership costs, with or without a solar panel. Experience seamless air quality monitoring with Air Lite.



Product specification type SKU SB3331

Communication

LTE Cat M1 or NB-IoT with Nano SIM card

Dimensions

81 x 45 x 148 mm

Weight

0.4 kg

Enclosure

Polycarbonate & Polyamide

Operating temperature and humidity

-20 °C to +60 °C, 0 to 99 %RH

Power Connector

Source 5V-12V, 0.1-2W or Solar Panel

Regulatory Compliance

CE Mark

Mounting: Pole/Wall mounting bracket

Particulate matter

PM1 ,PM2.5, PM10

Temperature Sensor

Range and Accuracy

-20°C to 60°C, ± 0.3°C

Humidity Sensor

Range and Accuracy

0...100 %RH, ±3 %RH

Noise Meter (extra license required)

Range: 50-100 dBA

Typical accuracy: ±4 dBA

Sampling Frequency

From 5min to 24 hours

Remote Management

Sensorbee portal or LWM2M server

Mounting

Pole/Wall mounting bracket

Sensorbee Air Pro Gas Extender Unit

Upgrade your Sensorbee Air Pro setup with the Gas Extender Unit, compatible with both the Cellular and Modbus versions. Easily increase your monitoring capacity by connecting up to three additional gas modules, for a total of six gas sensors. Simply attach the Extender Unit to the Air Pro base with the M8 sensor extension connector. Enjoy automatic configuration and instant data transmission upon connection.



Product specification type SKU SB3395

Modules Supported

3 x Gas modules.

Communication

Connect attached cable to a Sensorbee Air Pro base unit using the external sensor connector (Cellular or Modbus)

Mounting

Pole/Wall mounting bracket included.

Dimensions

81 x 56 x 148 mm

Weight

0.5kg

Enclosure

Polycarbonate & Polyamide

Operating Temperature

-20 °C to +60 °C

Operating Humidity

0 to 100 %RH

Regulatory Compliance

CE Mark

Sensorbee Outdoor Solar Panel



Solar power



Outside



Green energy

Our solar panel

7W and 14W solar panel that also have a slot for the Air quality sensor Unit, that easily can be mounted to unit. The unit can be mounted on a pole as well as on a wall. different angles of solar panel can be set.



Product specification

Type SKU SB6102 for 7W

Type SKU SB6103 for 14W

Solar Panel capacity - 7W

Dimensions

290 x 150 x 110 mm

Weight

0.9 kg

Polar Panel capacity - 14W

Dimensions

290 x 280 x 110 mm

Weight

1.3 kg

Output Voltage

5V with a Sensorbee Tag connector

Regulatory Compliance

CE Mark

Mounting

Wall mounting bracket

Enclosure

Polycarbonate & Polyamide

Operating Temperature

-20 °C to +60 °C

Operating Humidity

0 to 99 %RH

Sensorbee Power Cables



The Sensorbee Pro and Light systems are versatile in power sources – they can be powered by a fixed power source or a solar panel. Both models are equipped with a robust M8 4-position connector, capable of handling an input voltage range of 5V-12V. We offer three cable lengths for the M8 to USB power cable, which can be modified for a 12V source if needed.

An 2M long M8-M8 power extension cable can be used to extend the distance between a Solar panel and the Base unit.

A 1A 5V multi-country power socket USB Adapter can be used together with the cables.



Power Cable Power Cable Extender USB Power Adaptor



SB9011 Power Cable - 2M

2M Length, M8(4pos) to USB-A connector

SB9013 Power Cable - 5M

5M Length, M8(4pos) to USB-A connector

SB9014 Power Cable - 10M

10M Length, M8(4pos) to USB-A connector

SB9022 Power Cable Extender

2M Length, Male M8(4pos) to female M8(4-pin)

SB9031 Power Adaptor

USB Power Adapter

Power:

Input: 100-240VAC

Output: 5V, 1A, USB-A

Included changeable Plugs:

EU, UK, US

Operating Temperature

0 °C to +40 °C

Sensorbee Ambient Noise add-on License



Introducing our ambient noise license, specially designed for use with Sensorbee Air Pro and Sensorbee Air Lite units. The license enable you to enjoy uninterrupted Ambient noise service for the full lifespan of your base unit, even if sensor modules are exchanged.

Product specification Module SKU SB1101

The Sensorbee Ambient noise enhancer is an innovative software upgrade designed to enable your Sensorbee Air Quality Sensors to also measure noise levels in your environment. Built with advanced dBA noise calculation technology, our add-on license allows your existing Sensorbee units to capture, analyze, and report noise pollution data in real-time, along with the air quality metrics.

Our add-on software license integrates seamlessly with your current Sensorbee Air Quality Sensors, turning them into comprehensive air and noise pollution monitors. The license are valid for a base unit over the full use, even if sensor modules are being exchanged during service life.

Our license tokens can be brought and installed in three ways. Firstly, you can order the base unit together with a noise license, and the license will be at factory.

Alternatively, you can enable the license through the Sensorbee cloud service or receive a licence token generated specifically for your base unit and install the token to the device using a terminal.

The accuracy of the ambient noise sensor are determined by each product. for more information look at Sensorbee Pro front module as well as Sensorbee Lite product specifications.

Sensorbee Air Quality Front Sensor Module

The Front module have multiple sensors built in. A high performance particle sensor capable of measuring particles from 0.1µm to 10 µm in 7 bins. There are an option to upgrade using a software licence to add a ambient noise sensor. The front module are used in Sensorbee Air Pro products.



Product specification Module SKU SB3516

Dimensions

61 x 56 x 20 mm

Weight

70 gram

Material

Polyamide

Operating Temperature

-10 °C to +60 °C

Operating Humidity

0 to 95 %RH

Particle Sensor

Type

Optical particle counter

Mass Concentration Range

Pierra 7100

Mass size Range

7 Binning output PC0.1-PC10

Particle Count (PC) resolution

1 #/Liter

Particle Count (PC) accuracy

±10 %

Sample Flow Rate

0.1 LPM

Temperature Sensor

Range and Accuracy

-40°C to 60°C, ± 0.3°C

Humidity Sensor

Range and Accuracy

0...100 %RH, ±3 %RH

VOC Sensor Range

0 to 1,000 ppm (VOC Index 0-500)

NOX Sensor Range

0-10,000 ppb (NOX Index 0-500)

Pressure Sensor

300 ... 1250 hPa

Accuracy

±0.50 hPa

Module Operational Life

24 months

Noise Meter (extra license required)

Range

55-100 dBA

Typical accuracy

±4 dBA

Frequency range

20 - 12k Hz

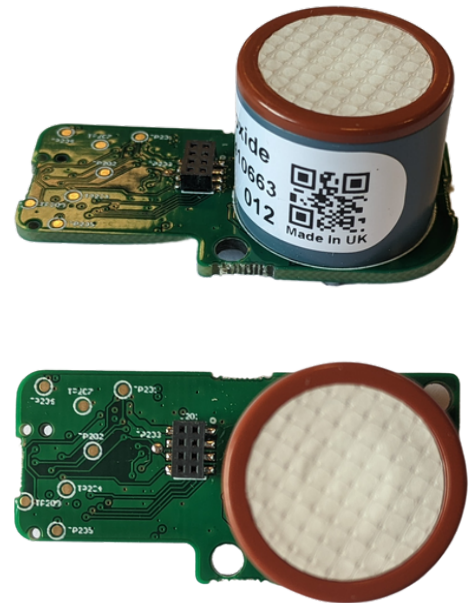
Sensorbee CO2 Gas Module



The CO2 gas module has a solid state sensor that detects CO2 concentration.

The CO2 gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB3541

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-10°C to +60°C

Operating Humidity

0 to 95 %RH

Module Sensor CO2

Sensor type

Photoacoustic sensor technology

CO2 Measurement Range

0 ppm – 40'000 ppm

CO2 Accuracy

±(40 ppm + 5 %)

Module Operational Life

> 3 years

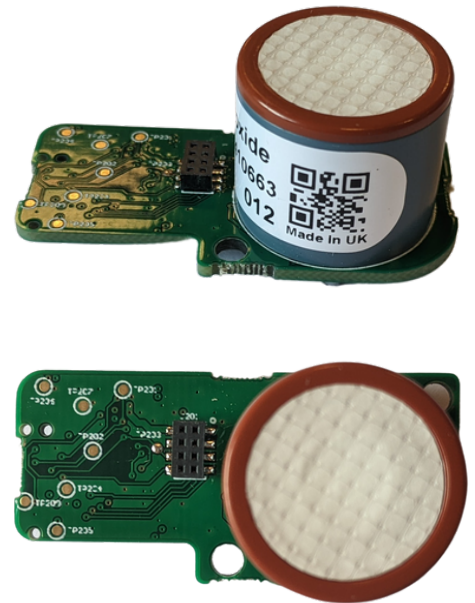
Sensorbee NO2 Gas Module



The NO2 gas module has a built-in electrochemical sensor that detects NO2 concentration.

The gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB4200

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-20°C to +40°C

Operating Humidity

15% to 85 %RH

Gas Sensor

NO2

Type

Electrochemical

Measurement Range

0-5000 ppb

Typical Accuracy

±5ppb

Module Operational Life

>12 months

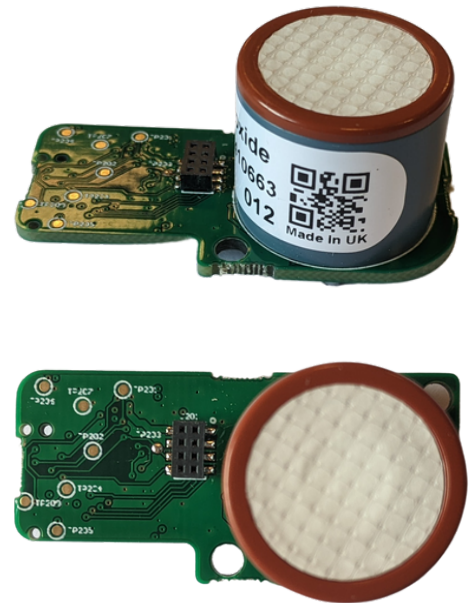
Sensorbee NO Gas Module



The NO gas module has a built-in electrochemical sensor that detects NO concentration.

The gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB4240

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-20°C to +40°C

Operating Humidity

15% to 85 %RH

Gas Sensor

NO

Type

Electrochemical

Measurement Range

0-5000 ppb

Typical Accuracy

±5ppb

Module Operational Life

>12 months

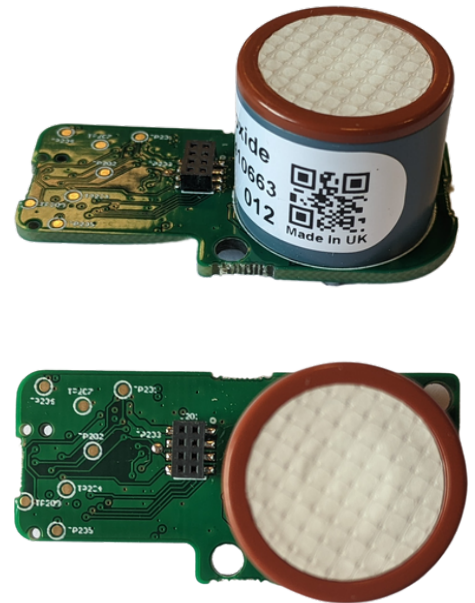
Sensorbee CO Gas Module



The CO gas module has a built-in electrochemical sensor that detects CO concentration.

The CO gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB4260

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-30°C to +40°C

Operating Humidity

15 to 85 %RH

Type

Electrochemical

Measurement Range

0-12000 ppb

Typical Accuracy

±0.08 ppm

Module Operational Life

>12 months

Sensorbee O3 Gas Module



The Ozone gas module has a built-in electrochemical sensor that detects O3 concentration.

The gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB4270

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-20°C to +40°C

Operating Humidity

15% to 85 %RH

Type

Electrochemical Ozone sensor

O3 Measurement Range

0-2000 ppb

Typical Accuracy

±5ppb

Module Operational Life

>12 months

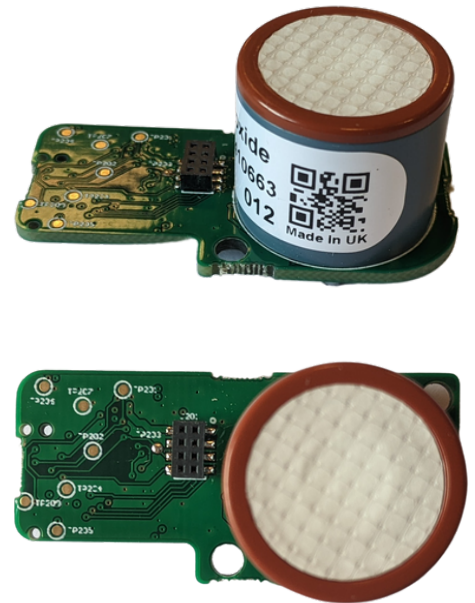
Sensorbee SO2 Gas Module



The SO2 gas module has a built-in electrochemical sensor that detects SO2 concentration.

The gas modules are pre-calibrated and easy exchangeable.

Temperature and humidity compensation by algorithm.



Product specification Type SKU SB4250

Gas Module Dimensions

58 x 21 x 22 mm

Weight

20 gram

Enclosure

Polyamide

Operating Temperature

-20°C to +40°C

Operating Humidity

15% to 85 %RH

Gas Sensor

SO2

Type

Electrochemical

Measurement Range

0-10000 ppb

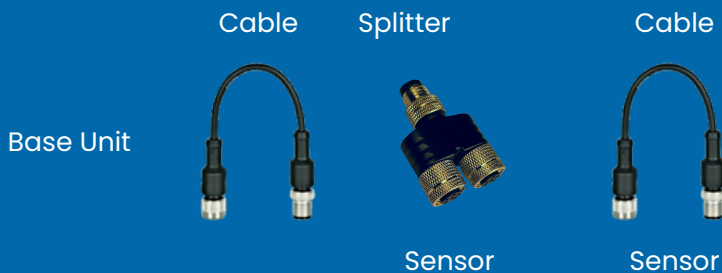
Typical Accuracy

±15ppb

Module Operational Life

>12 months

Sensorbee External Sensor Cables



Maximize your Sensorbee Pro's potential with Sensorbee External Sensors. Utilize our unique connector to attach a single sensor directly, or opt for a splitter to daisy-chain multiple sensors. This flexibility ensures optimal adaptability for all your sensing needs.

Sensorbee external sensor cables are using M8 with 6 position. solution are IP67 rated with a wide temperature operational range.



SB9112

1M Sensor Cable Extender

SB9114

2M Sensor Cable Extender

SB9116

5M Sensor Cable Extender

SB9131

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

General Information

Connector Size

M8

Number of Positions:

6

IP Rating:

IP67

Operating Temperature

-20 °C to +60 °C

Operating Humidity

0 to 99 %RH

Regulatory Compliance

CE Mark

Sensorbee External ultrasonic Anemometer



It measures both wind speed and wind direction. It is an ultrasonic anemometer.

The unit can be mounted to a pole or a flat vertical surface. Easily connect to Sensorbee Air quality unit using the external connector.



Product specification Type SKU SB3611

Wind range

0.12 to 40 m/s

Wind resolution

0.05 m/s

Wind accuracy

0.12 m/s

Weight

200 gr

Direction resolution

1°

Direction accuracy

± 1.5°

Operating temperature

-15°C to 55°C

Dimensions

300 x Ø16 mm

Sensorbee External Rain Gauge



The rain gauge are reliable and simple to maintain, it can handle all climates. Proven self-emptying bucket technology to ensure uninterrupted measurement of precipitation regardless of amount and intensity.

It measures rain by means of a standardised orifice funnel. The design offers a long-term accuracy because of its counterweight is not affected by dirt and dust accumulation. Connect to Sensorbee Air quality unit using the external connector.



Product specification Type SKU SB3631

Dimensions

120 x 55 x 55 mm

Weight

300 gram

Material

Polyamide

Operating Temperature

-40°C to +60°C

Operating Humidity

0 to 99 %RH

Typical accuracy

±0.2 mm

Resolution

0.2 mm

Measuring range

-0°C to +60°C

Orifice area

Ø200 cm²

Mounting bracket

universal pole bracket Included

Bird protection spikes

Included