

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Sensorbee Pro2

Manufactured by:

Sensorbee AB

Jägarvällsvägen 8B
584 22, Linköping
Sweden

has been assessed by CSA Group
and for the conditions stated on this certificate complies with:

MCERTS - Performance Standards for Indicative Ambient Particulate Monitors, Environment Agency, August 2017, version 4

Certified for PM_{2.5} and PM₁₀

Project No.: 80259398
Certificate No: CSA MC250462/00
Initial Certification: 5 December 2025
This Certificate issued: 5 December 2025
Renewal Date: 4 December 2030



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MCERTS is operated on behalf of the Environment Agency by

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Approved Site Application

Any potential user should make sure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency guidance available at www.mcerts.net

Indicative Ambient Particulate Monitors are field tested under MCERTS at typical ambient particulate concentrations. Therefore, the scope of certification is limited to the composition and magnitude that the sensors experience during field testing. Typically, this will be an urban background or traffic location. For further information refer to www.csagroup-Bulletin PC-4-IAPM

The indicative dust monitoring analyser(s) can be operated in one of two ways:

For qualitative measurements: Providing qualitative measurement data for the analysis of particulate pollution trends, and source identification studies based for example on pollution roses etc. Such application can rely on instrument factory calibration only.

For quantitative measurements: Providing measurement data with the uncertainty defined for indicative instruments (+/- 50%). This can be achieved on condition that each instrument used for measurement has been calibrated on the specific site where monitoring is taking place against a standard reference method or an instrumental method that is equivalent to a standard reference method, for a period of two weeks and the resulting slope and intercept have been used for instrument calibration. To maintain the validity of data this calibration has to be repeated at least every twelve months or when the instrument is moved to a different site.

The use of non-standard filters or procedures for calibration is not acceptable.

They **cannot** be used on national automatic monitoring networks for compliance reporting against the Ambient Air Quality Directives.

The sampling frequency used during the certification testing was 5-minute averaged PM values, uploaded every 5 minutes. This certificate is only applicable for the sampling frequency used during the certification testing.

The power supply options include a 5-24 V DC external supply (1 A min) or a solar-panel input to 26 V with an integrated internal backup battery.

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The field tests were carried out from the 9th July 2024 to the 28th September 2025 on two candidate 'Sensorbee Pro2' sensor systems, collocated with two Palas Fidas 200S continuous ambient air monitors (the reference method). The location of the field test was at the London Teddington Bushy Park monitoring station (this site was an urban background area).

The serial numbers of the two 'Sensorbee Pro2' sensor systems were 'sb_jxje' and 'sb_9jlz'.

Basis of Certification

This certification is based on the following test report(s) and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process:

Bureau Veritas, test report ref. AIR 27424816, V1.0, dated October 2025, "Test of the Sensorbee Air Pro 2 Sensor System for use as an Indicative Monitor for PM₁₀ and PM_{2.5}"

Product Certified

The 'Sensorbee Pro2' measuring system consists of the following parts:

- Polyamide enclosure of dimensions 145mm x 200mm x 80mm (H x W x D) weighing 1.9kg
- Power input internal battery 5 to 24 VDC 120 Ah
- External sensor connectors:
 - M8 conn. (for Sensorbee Provided sensors)
 - M12 8pin conn. (or Modbus RTU sensors)

Sensor type and Firmware version
Tera NextPM Adjusted and 10.47.

Firmware and Algorithm Version of sensor system
3.36.2-pro and PMAIgo 1.0.

This certificate applies to all instruments fitted with serial number 'sb_jxje' and 'sb_9jlz', onwards.

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Certified Performance

| Test (<i>Laboratory</i>) | Results expressed as % of the certification range | | | | Other results | MCERTS specification |
|---|---|----|----|----|---------------|--|
| | <0.5 | <1 | <2 | <5 | | |
| Constancy of the sample volumetric flow | | | | | note 1 | To remain constant within $\pm 3\%$ |
| Tightness of the sampling system PM _{2.5} /PM ₁₀ | | | | | 1.62% | Leakage not to exceed 2% of sampled volume |

| Test (<i>Field</i>) | Results expressed as % of the certification range | | | | Other results | MCERTS specification |
|--|---|----|----|----|--|---|
| | <0.5 | <1 | <2 | <5 | | |
| Intra-instrument uncertainty for the reference method PM _{2.5} PM ₁₀ | | | | | 0.67 $\mu\text{g}/\text{m}^3$ 0.67 $\mu\text{g}/\text{m}^3$ | $\leq 2.5 \mu\text{g}/\text{m}^3$ |
| Intra-instrument uncertainty for the candidate method PM _{2.5} All data (n = 81) $\geq 18 \mu\text{g}/\text{m}^3$ (n = 0) PM ₁₀ All data (n = 81) $\geq 30 \mu\text{g}/\text{m}^3$ (n = 0) | | | | | 0.16 $\mu\text{g}/\text{m}^3$ N/A 0.23 $\mu\text{g}/\text{m}^3$ N/A | $\leq 5 \mu\text{g}/\text{m}^3$ for all data as well as for the subsets: < or $\geq 30 \mu\text{g}/\text{m}^3$ |
| Highest resulting uncertainty estimate comparison against data quality objective (Measurement Uncertainty) PM _{2.5} All data (n = 81) PM ₁₀ All data (n = 81) | | | | | 34.0 % 31.3 % | $W_{CM} \leq 50\%$ $W_{CM} \leq W_{dpo}$ (W_{dpo} Measurement uncertainty defined as 50% for indicative instruments) |
| Maintenance Interval | | | | | ≥ 2 weeks note 2 | ≥ 2 weeks |

- Note 1 - The 'Sensorbee Pro2' flow rate is too low to be accurately monitored, therefore it was agreed that this test was not applicable.
 Note 2 - Maintenance - no regular maintenance is required. The manufacturer states that the maintenance interval is a minimum of two years and recommends that the PM sensors are replaced every 24 months.
 Note 3 - In order to be used for indicative purposes the Sensorbee Pro 2 sensor system must be set up in the same configuration as which it was tested, namely the following must be installed:
- o sensor type and firmware version: 'Tera MEXTPM Adjusted' and '10.47'
 - o firmware and algorithm version of sensor system: '3.36.2-pro2' and 'PMAIgo 1.0'.

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Description

The Sensorbee Pro2 is an indicative ambient air quality monitoring node based on an optical particle sensor. The particle counter provides continuous measurements of particle number across multiple size bins between 0.3µm and 10µm. PM_{2.5} and PM₁₀ (covered under this certification).

The Sensorbee Pro2 can be fitted with up to six additional gas sensors, allowing simultaneous measurement of gaseous pollutants alongside particulate matter. Available gas sensor options include NO, NO₂, O₃, SO₂, H₂S, CO, CO₂ and VOC (not covered under this certification).

The node is housed in a weather-resistant enclosure suitable for permanent outdoor installation. Monitoring data can be accessed via a web-based portal or via an API for integration with third-party systems. Transmission is made over cellular networks.

External sensor connectors allow additional environmental sensors to be integrated, for example wind, noise and ground vibration sensors. This enables deployment of Sensorbee Pro2 for indicative monitoring at urban background, roadside, industrial and construction sites.

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this certificate. The manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.
2. The design of the certified product is defined in the CSA Group design schedule for certificate no. CSA MC250462.
3. If a certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.
4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Group Testing UK Ltd Certificates'.
5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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