

— DATA SHEET · CA-DS-01 · V1.0

Clanert Air pod

Outdoor particulate matter and air quality monitor with offline memory, Wi-Fi upload, cloud calibration, website, app and API.

PM1 · PM2.5 · PM4 · PM10

VOC · NOX · T · RH (EXPANDED)

5-MIN RECORDS

OFFLINE 17 DAYS



Specification	Standard	Expanded
SENSOR		
Sensor module	Sensirion SPS30	Sensirion SEN55
Measured parameters	PM1.0, PM2.5, PM4, PM10	PM1.0, PM2.5, PM4, PM10, VOC index, NOx index, temperature, relative humidity
Particle measuring principle	Laser light scattering with photodiode detection; built-in fan; Class 1 laser	
Factory calibration	Factory calibrated, each device tested (Sensirion)	PM2.5 calibrated to TSI DustTrak™ DRX 8533 (Ambient Mode); each device verified after calibration with KCl aerosol; ISO 9001:2015 traceable to NPL / PTB / NIST
Rated sensor lifetime	> 10 years in 24 h/day operation (MTTF)	
PARTICULATE MATTER		
Mass concentration range	0 – 1 000 µg/m³	
Size ranges	PM1.0: 0.3–1.0 µm · PM2.5: 0.3–2.5 µm · PM4: 0.3–4.0 µm · PM10: 0.3–10 µm	
Precision PM1 / PM2.5, 0–100 µg/m³	± (5 µg/m³ + 5 % m.v.) ¹	± 5 µg/m³ and ± 5 % m.v.
Precision PM1 / PM2.5, 100–1 000 µg/m³	± 10 % m.v.	
Precision PM4 / PM10	± 25 µg/m³ (0–100 µg/m³) · ± 25 % m.v. (100–1 000 µg/m³) ²	
Long-term drift (max.)	See Sensirion SPS30 datasheet	1.25 µg/m³ per year (0–100 µg/m³)
GASES, TEMPERATURE, HUMIDITY (EXPANDED ONLY)		
VOC index	–	1–500 index points (100 = location's normal); device variation < ±15; repeatability < ±5; meets spec < 1 h after start
NOx index (incl. NO₂)	–	1–500 index points (1 = normal); device variation < ±50; repeatability < ±10; meets spec < 6 h after start
Temperature	–	Typ. ± 0.45 °C, max ± 0.7 °C (15–30 °C)
Relative humidity	–	Typ. ± 4.5 %RH, max ± 6 %RH (30–70 %RH, 25 °C)

MEASUREMENT AND DATA

Sensor read rate	Every 1 s	
Record interval	5 min average (adjustable locally or from the cloud)	
Data quality in the pod	Start-up and the weekly fan self-cleaning are excluded from averages; automatic recovery after faults	
On-board memory	About 38 days of records kept in the pod; up to about 17 days of fully offline operation; survives power cuts	
Record format	UTC and local time, PM1, PM2.5, PM4, PM10, sample count	As Standard + temperature, RH, VOC index, NOx index

CONNECTIVITY

Network	Wi-Fi 2.4 GHz, automatic reconnect	
Upload	Encrypted (HTTPS) to the Clanert cloud; every pod individually authenticated; offline backlog sent automatically	
Local access	Always-on Wi-Fi hotspot + local web page: live values, status, Wi-Fi and interval setup, CSV download, restart	

POWER

Supply	5 V DC via USB-C: mains adapter or solar kit	
Sensor current (measuring)	See SPS30 datasheet	63 mA typ. / 80 mA max. (after first 60 s), 100 mA peak
System consumption	Typically below 1 W	

ENVIRONMENT AND MECHANICS

Operating conditions (sensor)	Per Sensirion SPS30 datasheet	Recommended 10–40 °C, 20–80 %RH; limits –10–50 °C, 0–90 %RH non-condensing
Housing	White polymer hood with blue base; downward-facing sampling vents; standard pod ≈ 62 × 67 × 58 mm (W × H × D)	
Mounting	Slide-on clip bracket: pole (2 straps up to 5 mm wide), wall (screws) or fence; recommended height 2–3 m	
Options	Solar kit · USB-C mains adapter · steel anti-theft cage	

SOFTWARE

Website	Dashboard, live map (9 AQI scales, satellite basemaps, NASA air-quality layers), analysis, alerts (e-mail), reports (PDF/CSV/e-mail), calibration, AI analytics, widgets, REST API with keys	
Mobile app	Android: stations, station page, map, background alerts, Ask AI, AQI scale choice, account, in-app updates	
Calibration	Cloud field calibration with humidity correction, validation against US EPA sensor performance targets, daily drift checks (CA-CAL-01)	

m.v. = measured value. ¹ SPS30 units produced from 31 January 2021 (earlier units: ± 10 µg/m³). ² PM4 and PM10 are derived from the measured particle size distribution. Sensor values from Sensirion: SEN5x Datasheet v2 (March 2022) and SPS30 datasheet and change notice; values apply at 25 °C, 5 V, unless stated. VOC and NOx indices are relative indices, not concentrations. System values for the current Clanert Air release. Specifications may change without notice.