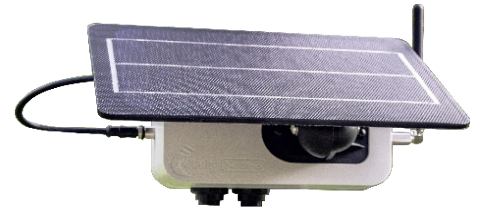




Node-S Technical Specifications



AIR QUALITY MEASUREMENTS

PARAMETER	TECHNOLOGY	RANGE	PERFORMANCE AFTER CALIBRATION
Particulate Matter PM _{2.5} [µg/m ³]	Laser Light Scattering with Remote Calibration	0-1000 µg/m ³ 1 µg/m ³ resolution	Accuracy: < 100 µg/m ³ : ± 10 µg/m ³ ; ≥ 100 µg/m ³ : within ± 10% of measured value Correlation (R ²) with USEPA FEM instrument > 0.8
Nitrogen Dioxide NO ₂ [ppb]	Electrochemical Cell with Remote Calibration	0-3000 ppb 1 ppb resolution	Accuracy: < 200 ppb: ± 30 ppb; ≥ 200 ppb: ± 15% of measured value Correlation (R ²) with USEPA FEM instrument > 0.7

Additional Parameters: PM_{2.5} Number Concentration [# /cm³] | PM₁ Mass Concentration [µg/m³] | PM₁ Number Concentration [# /cm³] | PM₁₀ Mass Concentration [µg/m³] | PM₁₀ number concentration [# /cm³] | Internal Temperature [°C] | Internal Relative Humidity [%]

DATA FLOW

Measurement Frequency (Adjustable)	Default: Once every 15 minutes Minimum: Once every 3 minutes
Data Retrieval from Cloud	Clarity Dashboard (Web App) RESTful APIs (Programmatic Access) OpenMap (Public Data Sharing)
Device to Cloud Communication	Global cellular 2G/ 3G/ 4G SIM card and service included

OPERATING CONDITIONS

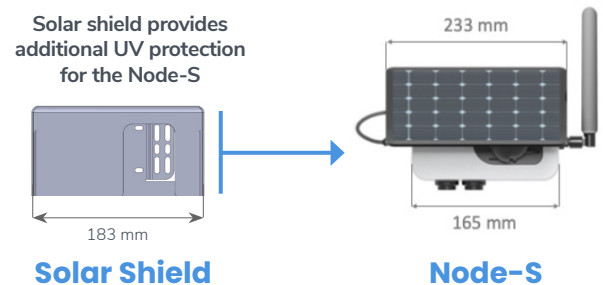
Weatherproof Rating	IPX3
Operating temperature¹	-10° to 55° C
Absolute temperature rating	-40° to 70° C
Operating humidity	10% to 98% RH
UV Exposure	UV resistant

POWER¹

Current Consumption	200 mA (sensing) 500 mA (uploading) <1 mA (sleeping)
Input Voltage	5 V
Battery Capacity	15,900 mAh
Solar Panel	5 W (max power) 6.4 V (open circuit voltage) 1.05 A (short circuit current)
Battery Life²	15 days (without solar power harvesting) >2 years (with solar power harvesting) ³ 20 hours (internal battery charge time)

DIMENSIONS

Node	165 mm (W) x 84 mm (H) x 79 mm (D)
Solar Panel	233 mm (W) x 176 mm (H) x 4 mm (D)
Solar Shield	183 mm (W) x 97 mm (H) x 91 mm (D)
Total Weight	2.15 kg / 4.7 lb (1.2 kg without shield)



¹ The Node-S can be used as a solar-powered or externally-powered device. External power required for operation below 0° C.

² Varies by deployment site location, solar panel orientation, and sampling frequency.

³ Assuming default measurement frequency and exposure to an average of one hour of full sunlight per day over a 15 days rolling window.