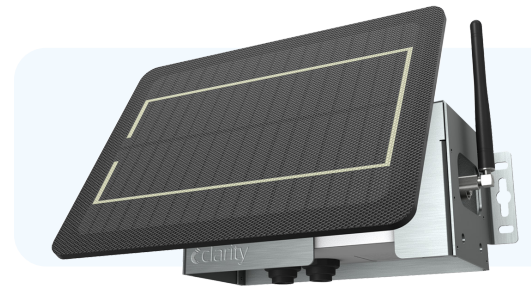




Node-S Technical Specifications

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

Additional Node-S 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 [%]

Additional Parameters with Add-On Modules: Wind Speed | Wind Direction | Ambient Temperature | Ambient Relative Humidity | Atmospheric Pressure | FEM-Grade Ozone Concentration | Black Carbon Concentration

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 temperature ¹	-10° to 55° C
Absolute temperature rating	-40° to 70° C
Operating humidity	10% to 98% RH
UV Exposure	UV resistant

POWER¹

Current Consumption	28 mA (sensing) 30 mA (transmission) <300 uA (sleeping)
Input Voltage	15 V
Battery Capacity	6400 mAh capacity 10.8 V nominal voltage 5 hours charge time
Solar Panel	6 W (max power) 21.6 V (open circuit voltage) 350 mA (short circuit current)
Battery Life ²	30 days (without solar power harvesting) >5 years (with solar power harvesting) ³

DIMENSIONS

Node (no antenna, shield or solar panel)	188 mm (W) x 98 mm (H) x 128 mm (D) Weight: 2.00 lb / 0.91 kg
Solar Panel	233 mm (W) x 176 mm (H) x 4 mm (D) Weight: 1.03 lb / 0.47 kg
Solar Shield ⁴ (not including solar panel)	232 mm (W) x 100 mm (H) x 162 mm (D) Weight: 0.60 lb / 0.27 kg
Weight	Total assembled: 3.64 lb / 1.65 kg

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

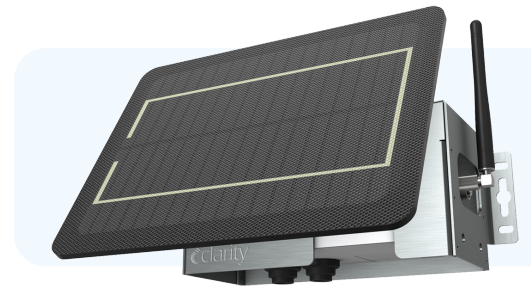
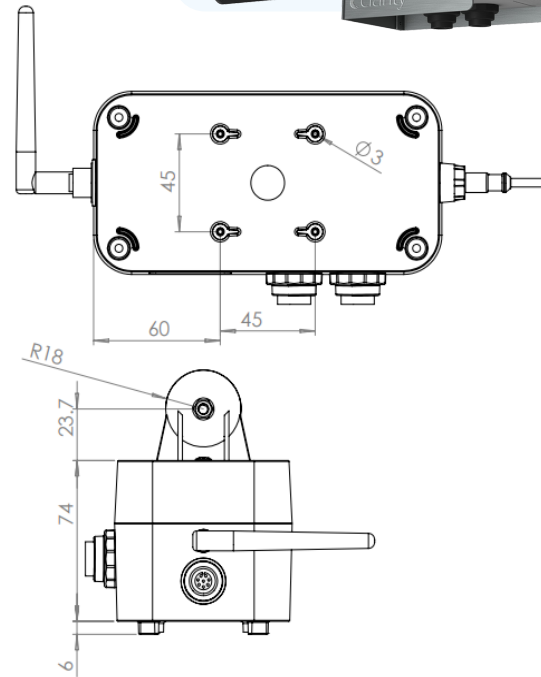
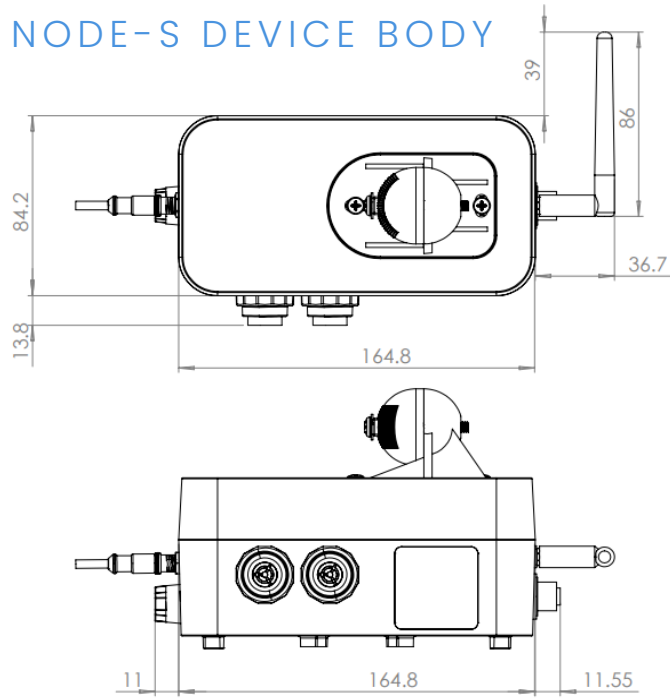
² Varies by deployment site location, solar panel orientation, and sampling frequency.

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

⁴ Solar shield provides protection against direct heat radiation.

Node-S Technical Drawings

NODE-S DEVICE BODY



NODE-S DEVICE WITH SHIELD + SOLAR PANEL

