

Terrestream[®] Indoor Air Quality Sensor

Next-generation indoor air quality sensor with multi-sensor AI integration, designed to align with RESET[®] Air and WELL performance criteria for healthy indoor environments.

1. Features

Comprehensive Air Quality Sensing

- Sensirion CO₂ (NDIR), PM_{1.0} / PM_{2.5} / PM₄ / PM₁₀, NOx, VOC, temperature, and relative humidity sensor
- Bosch barometric pressure sensor and Texas Instruments ambient light sensor

High-Performance Processing

- ESP32-S3 dual-core microcontroller
- Integrated Wi-Fi (2.4 GHz) and Bluetooth[®] Low Energy (BLE)

User Interaction and Notifications

- 3.5-inch 320 × 480 RGB touchscreen
- Integrated 2 W speaker
- Fifteen underglow LEDs for notifications and status effects

Smart Connectivity

- Wi-Fi connection for cloud-based AI insights, web dashboard, and mobile app
- BLE for device management
- Mobile app for notifications and AI insights
- MQTT and Home Assistant integration

Power Management

- USB Type-C input with Power Delivery
- TI[®] power path management ICs
- ETL-listed / NRTL-listed power adapter

Compliance and Standards

- Designed to align with WELL Building Standard[™], RESET[®] Air, and California Title 24 through Sensirion SEN66 sensor
- Supports ANSI/ASHRAE 62.1-2022 and LEED via SEN66

2. Applications

- Smart home and residential environments
- Commercial buildings, office environments, industry, and smart building integration

3. Description

The Terrestream[®] Indoor Air Quality Sensor is a next-generation, multi-sensor platform purpose-built for residential, commercial, educational, and industrial environments. It continuously measures key indoor air parameters including CO₂, particulate matter (PM_{1.0} / PM_{2.5} / PM₄ / PM₁₀), NOx, VOCs, temperature, pressure, humidity, and brightness.

Powered by a dual-core high-performance processor with integrated Wi-Fi and Bluetooth[®] Low Energy, the device combines local sensing with cloud-based AI analytics to deliver real-time data, notifications, and insights. A 3.5-inch touchscreen, audio feedback, and dynamic LED indicators provide intuitive user interaction. With a precision-engineered enclosure, USB-C PD power management, and full RoHS compliance, the Terrestream Indoor Air Quality Sensor is designed to align with WELL Building Standard[™], RESET[®] Air, LEED, and ANSI/ASHRAE 62.1 performance criteria through the SEN66, helping occupants and facility managers create healthier, smarter indoor environments.

