AirU+

Datasheet

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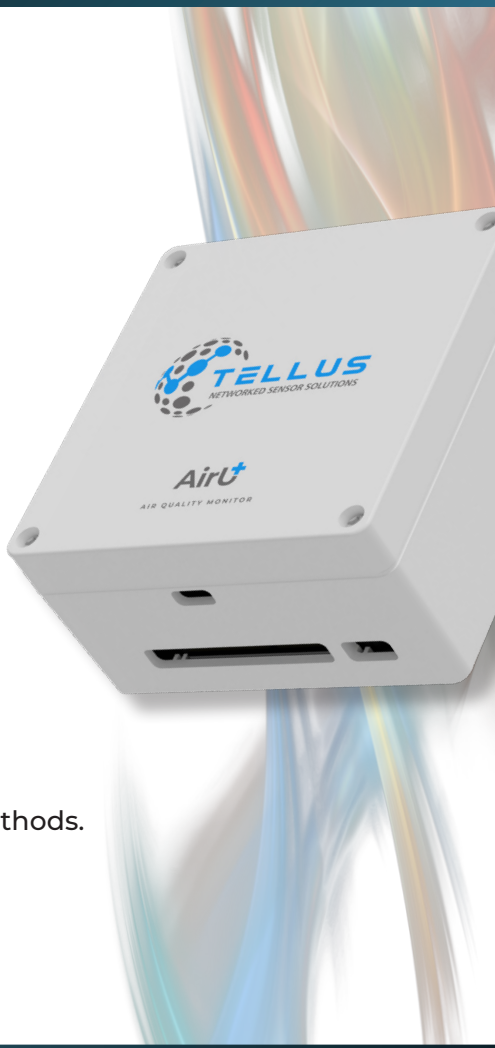
INTRODUCING THE AIRU+

Built on a scalable platform, TELLUS devices are designed to adapt to meet your specific pollution measurement requirements. With its expandable circuit board, the AirU+ can be personalized to deliver highly accurate measurements of the air pollutants you care about helping you gain insights to reduce air pollution exposure and make data-driven decisions.

Its lightweight, low-profile & ultra-low power consumption make the AirU+ an ideal choice for a discrete and effective solution to particulate matter and redox gases air quality monitoring.

Low Barrier to Entry

- Start with the Wi-Fi or Cellular base model and customize your AirU Pro by adding sensors as needed, at any time.
- Include existing third-party monitors and air quality data sources to your TELLUS air quality sensor network and reduce capital equipment costs.



Modular Sensor Platform

- Build the perfect air quality monitor for your project.
- Add up to 2 VOC sensors, a dedicated PM10 (Dust) sensor, a noise sensor, and up to 4 additional gas sensors that are specifically related to your project requirements.
- Only pay for what you need.

Wired or Wireless

- Choose between Wi-Fi or Cellular network communication methods.
- Add rechargeable IoT batteries for short-term remote projects.
- Add solar power supply for long-term remote projects.

Contribute to the Solution to
Improve Air Quality

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Wi-Fi & Bluetooth MCU

- Wi-Fi: 802.11 b/g/n (802.11n up to 150 Mbps)
- Bluetooth: Bluetooth v4.2 BR/EDR and Bluetooth LE specification Radio NZIF receiver with –97 dBm sensitivity Class-1, Class-2 and Class-3 transmitter, AFH
- 4MB SPI FLASH
- 520KB SRAM

User Defined Wi-Fi connectivity

- Connection performed using Tetrad Connect App
- Only one Wi-Fi network stored in NVM FLASH for security
- Must be manually cleared by the on-site operator using the device factory reset button before connecting to a new Wi-Fi network

Optical Particle Counter

- Independent PM_1, $PM_{2.5}$, PM_{10} concentrations
- UART Interface, 9600 Baud Rate
- Roughly 1 measurement per second (+/- 20%)
- 5VDC
- 60mA
- Sample rate: ~1/second
- PM1, PM2.5, PM10
- Units: micrograms / cubic meter
- 30 second warmup time

Digital Temperature & Humidity Sensor

- I^2C Interface
- Sampling rate: same as upload period
- Temperature in Degrees Celsius
- Relative Humidity (%)
- 1.3 µA

Micro-SD Card

- 32 GB FLASH
- 1-Channel SPI Interface
- Data collection stored locally
- Error logs stored locally

GPS Module

- 66 acquisition channels and 22 tracking channels
- UART interface, 9600 Baud Rate

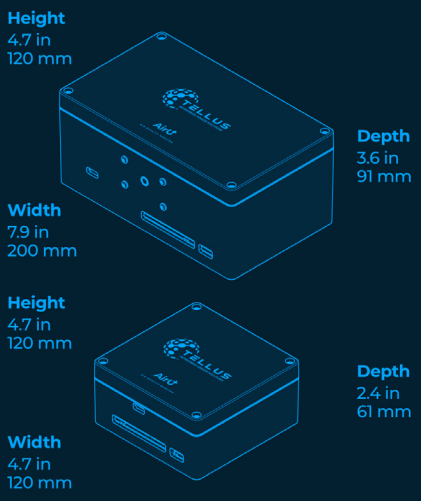
Gas sensor

- Independent dual interface (Oxidizing, Reducing)
- Oxidizing heater (TELLUS-programmable start / stop times)
- Output is an ADC count between 0 and 4096
- Dual independent MOS gas sensor
- 5V / 100mW
- 30 minute warmup time
- Detectable gases presented in one collective data point:
- Carbon monoxide CO 1 – 1000ppm
- Nitrogen dioxide NO2 0.05 – 10ppm
- Ethanol C2H5OH 10 – 500ppm
- Hydrogen H2 1 – 1000ppm
- Ammonia NH3 1 – 500ppm
- Methane CH4 >1000ppm

Optional Dedicated PM_{10} Sensor

Operation Characteristics

- Input: 5VDC
- Operating current: 120mA
- Micro-USB



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