



Total Health.IO™ Environmental Sensor

Model No. EN2 — Ethernet Connectivity

Total Health.IO™ Environmental Sensor (EN2):

The New Age Micro Total Health.IO™ Environmental Sensor provides detection and monitoring of air quality for industrial environments.

Total Health.IO™ provides monitoring of the following environmental conditions:

- Temperature
- Barometric pressure
- Humidity
- VOC — Volatile Organic Compounds
 - TVOC — Total VOC
 - eCO₂ — equivalent CO₂
 - IAQ — Indoor Air Quality
- PM1.0, PM2.5, PM10.0

Additional features include:

- Ruggedized construction in a compact lightweight design
- RTC allows setting time of measurement
- Programmable wake-up time
- Up to 1 second sampling rate
- 3 years plus operation
- Power source: Universal 10-30 V AC/DC or 3 AA batteries
- Battery backup in the event of power failure
- 10BASE-T and 100BASE-T Ethernet
- Tri-color status LED
- SD Card for autonomous data logging
- Dashboard (iOS, Android, web browser) for monitoring air quality data
- Total Health.IO™ AI System — Thio



Total Health.IO™ EN2



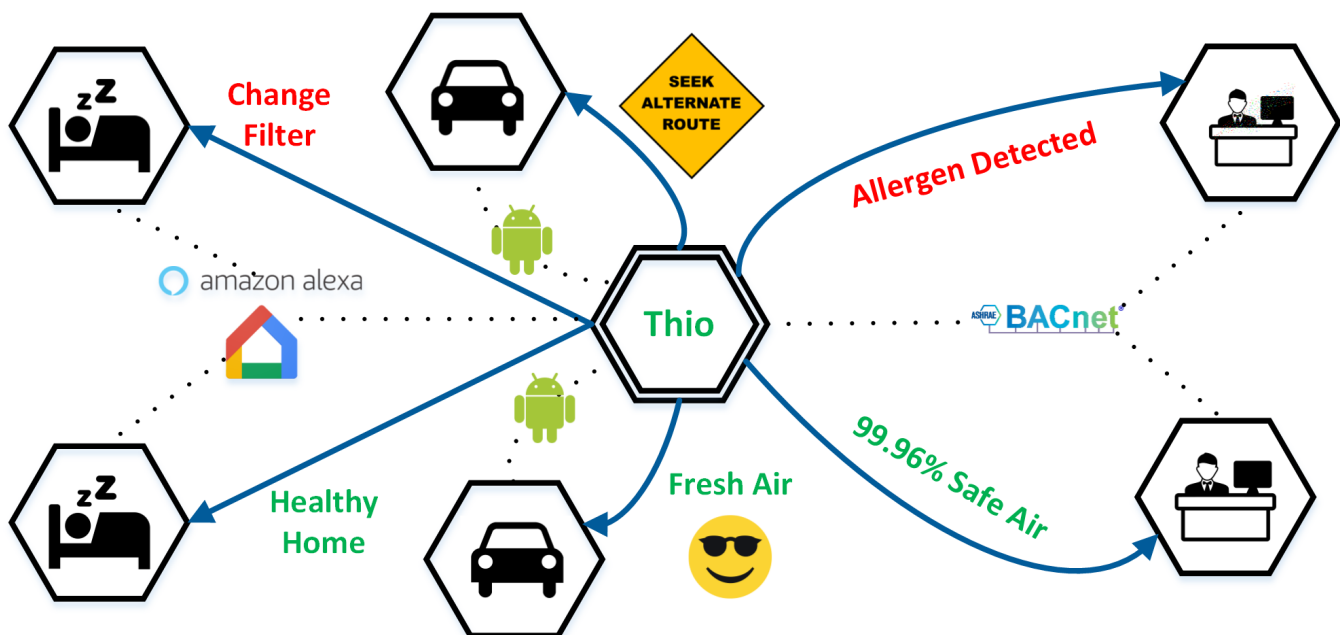
Total Health.IO™ Environmental Sensor (EN2):

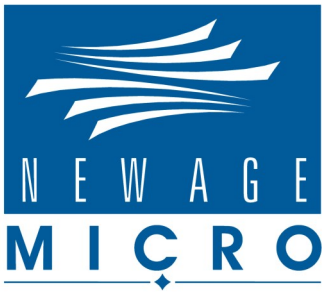
Built on top of a robust environmental sensing platform is Thio, the Total Health.IO™ AI system, driving deeper insight into environmental conditions through machine learning. By leveraging modern IoT infrastructure along with popular environmental and building management system protocols, Thio provides fully integrated access for quantifying environments where we spend the majority of our waking hours. The capabilities of Thio include:

- Ability to recognize and classify different gas mixtures for space and occupant health.
 - ⇒ Specific user applications can be done as a service.
- Automatically adjusts to changes in the environment.
 - ⇒ Transmission of alerts in response to rapid environmental changes.
- Ability to be trained on multiple environmental conditions for recognition of exposure to various hazards in susceptible environments such as:

✓ Office Space	✓ Manufacturing Environments	✓ Shop Floors
✓ Automobiles	✓ Lab Spaces	✓ Retail Spaces
- Sophisticated Data Fusion combines over 25 health metrics.

Thio is the first step in going beyond comfort control into a new era of occupant-focused healthy buildings.

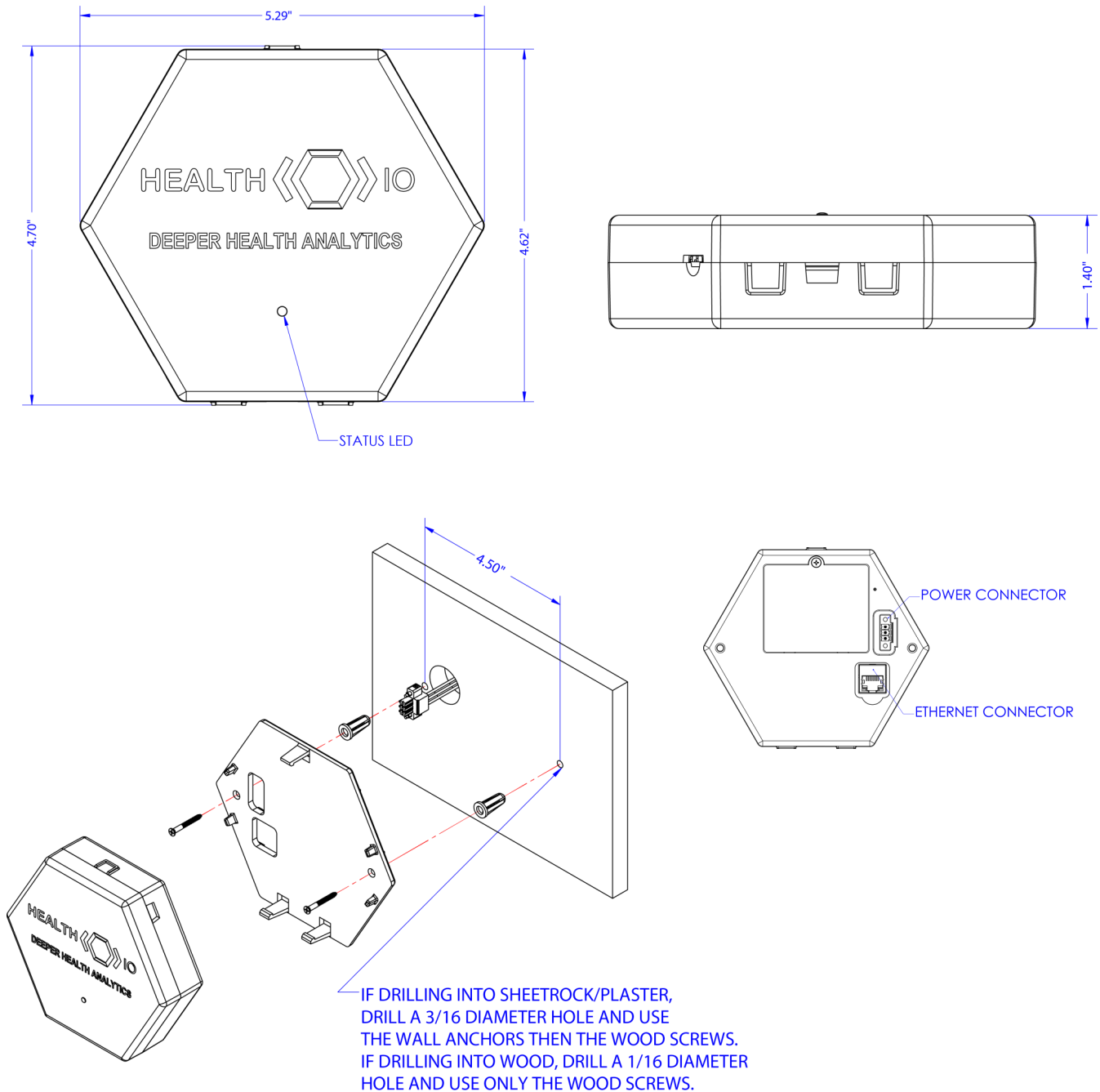




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Total Health.IO™ Physical Specifications and Mounting



TEMPERATURE



VOC



HUMIDITY



PARTICULATE



AI



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Total Health.IO™ Technical Specifications

- Ethernet Connectivity — 10BASE-T and 100BASE-T per IEEE 802.3
- Communication Protocols — BACnet/IP, Modbus, MQTT, OPC UA
- Cloud Connectivity — Amazon AWS IoT Greengrass and Microsoft Azure using MQTT
- Particle Range of Measurement — 0.3, 0.5, 1, 2.5, 5, and 10 micrometers
- Particle Effective Range — 1, 2.5, 10 $\mu\text{g}/\text{m}^3$
- Particle Maximum Range — $\geq 1000 \mu\text{g}/\text{m}^3$
- Particle Resolution — 1 $\mu\text{g}/\text{m}^3$
- Particle Maximum Consistency Error — $\pm 10\%$ @ 100~500 $\mu\text{g}/\text{m}^3$, $\pm 10 \mu\text{g}/\text{m}^3$ @ 0~100 $\mu\text{g}/\text{m}^3$
- Regulatory Compliance — FCC, CE, UL Listed

Total Health.IO™ Humidity Specification

- Absolute Tolerance Accuracy — $\pm 3\%$ RH
- Response time to complete 63% of step — 1 second

Total Health.IO™ Pressure Sensor Specification

- Absolute Pressure Accuracy — ± 1.0 hPa
- Relative Pressure Accuracy — ± 0.12 hPa

Total Health.IO™ Temperature Sensor Specification

- Operating Range Full Accuracy — 0-65°C
- Absolute Temperature Accuracy @ 25°C — $\pm 0.5^\circ\text{C}$
- Absolute Temperature Accuracy @ 0-65°C — $\pm 1.0^\circ\text{C}$
- Output Resolution — 0.01°C

Breath Equivalent VOC with Nitrogen Gas Carrier

Molar Fraction	Compound	Production Tolerance	Certified Accuracy
5 ppm	Ethane	20 %	5 %
10 ppm	Isoprene /2-methyl-1,3 Butadiene	20 %	5 %
10 ppm	Ethanol	20 %	5 %
50 ppm	Acetone	20 %	5 %
15 ppm	Carbon Monoxide	10 %	2 %

IAQ Classification and Color Coding

IAQ Index	Air Quality
0—50	Good
51—100	Moderate
101—150	Unhealthy for Sensitive Groups
151—200	Unhealthy
201—300	Very Unhealthy
301—500	Hazardous

