



**GREYSTONE**  
ENERGY SYSTEMS INC

# Total Indoor Air Quality

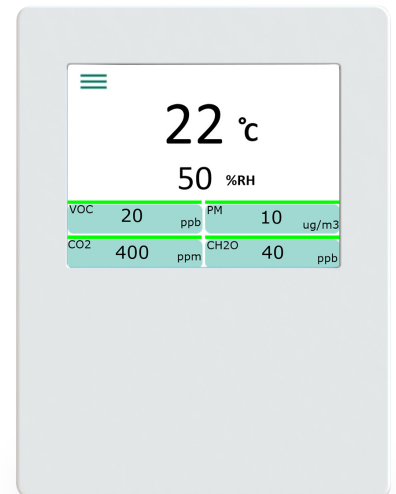


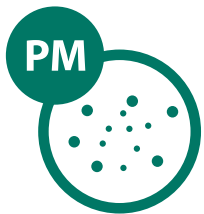
**BUILDING ENVIRONMENTS**  
FOR HEALTHY ENGAGEMENT



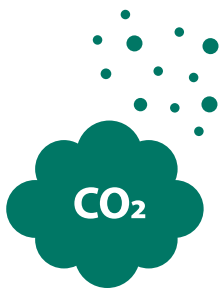
# Total Indoor Air Quality

With the worldwide need for accurate monitoring of indoor air quality, Greystone's new IAQ is a Total Indoor Air Quality Monitor. The IAQ will monitor up to 6 parameters that include Particulate Matter (PM1.0, PM2.5, PM4.0 & PM10), Volatile Organic Compounds, Carbon Dioxide, Formaldehyde, Humidity & Temperature and provide either a BACnet® or Modbus signal for connection to a building automation system. The IAQ features field replaceable sensor modules, a full-color capacitive touch screen LCD that's user configurable, and a configurable alarm relay output. All this housed in a new modern, quick mount enclosure.





Particulate Matter



Carbon Dioxide



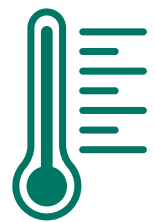
Volatile Organic Compounds



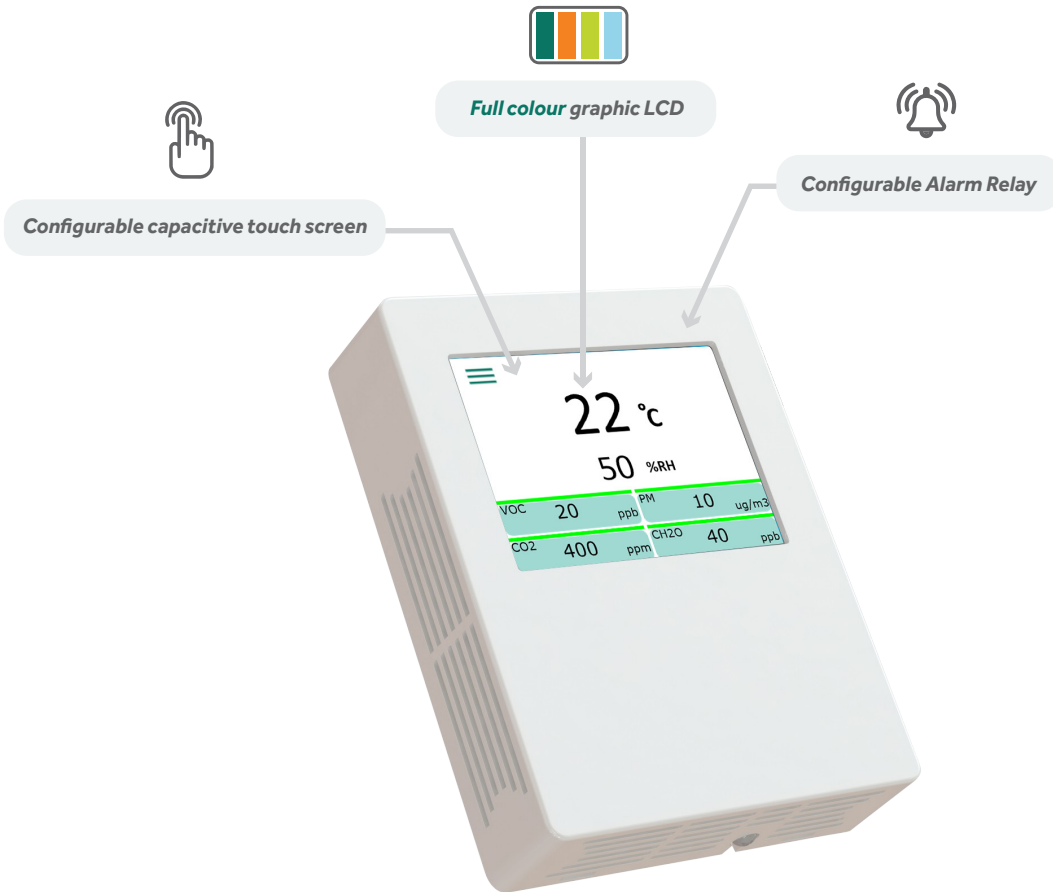
Formaldehyde



Humidity



Temperature



# PRODUCT HIGHLIGHTS

- Measurements for Particulate Matter (PM1.0, PM2.5, PM4.0 & PM10), Total Volatile Organic Compounds, Carbon Dioxide, Relative Humidity & Temperature with optional Formaldehyde
- Field replaceable sensors
- Full color LCD with capacitive touch screen and backlight control
- Configurable LCD for parameter values
- LCD touch screen lockout feature
- Viewable or concealed LCD cover options
- Red/Green/Yellow LED for air quality
- Wide voltage range 12Vac/dc to 28Vac/dc
- Integrated power switch for quick sensor change
- Enclosure designed for quick installation
- Backplate mounted terminals for easy installation
- Removable cover for troubleshooting with unit powered
- Temperature display with selectable °C/°F units
- CO2 Auto-calibration enabled/disabled modes
- CO2 field calibration compatible
- Alarm relay can be assigned to any of the parameters
- Programmable alarm relay setpoint, hysteresis and time delay with visual indication on LCD
- Facilitates compliance with ASHRAE 62.1 standard for air quality
- Contributes toward satisfying Feature A08 and T06 under the WELL Building Standard®

SPECIFICATIONS	
PARTICULATE MATTER (PM)	
Type	Laser Scatter Method (Field Replaceable)
Particulate Size	PM1.0, PM2.5, PM4.0, and PM10
Mass Concentration Range	0 - 1000 ug/m <sup>3</sup> or 0 - 3000 #/cm <sup>3</sup> (Selectable)
Mass Concentration Resolution	1 (ug/m <sup>3</sup> , 1#/cm <sup>3</sup> )
Accuracy PM1.0 and PM2.5	±10 ug/m <sup>3</sup> (0 - 100 ug/m <sup>3</sup> ), ±10%M.V. (100 - 1000 ug/m <sup>3</sup> )
Accuracy PM4 and PM10	±25 ug/m <sup>3</sup> (0 - 100 ug/m <sup>3</sup> ), ±25%M.V. (100 - 1000 ug/m <sup>3</sup> )
Sensor Life Expectancy	>10 years
CARBON DIOXIDE (CO <sub>2</sub> )	
Type	Dual channel non-dispersive infrared (Field Replaceable)
Accuracy	± (30ppm + 3% of measured value)
Range	0 - 10000 ppm
Auto-Cal	Selectable On (ASC) or Off (FRC)
Altitude Adjustment	0 - 3000 meters
Calibration	Field calibration capable with calibration kit
Sensor Life Expectancy	>10 years
VOLATILE ORGANIC COMPOUNDS (VOC)	
Type	MOX metal oxide semiconductor (Field Replaceable)
Range	VOC Index (0 - 500) or TVOC (1300 ppb or 6000 ug/m <sup>3</sup> )
Resolution	1 (VOCI, PPB, ug/m <sup>3</sup> )
RELATIVE HUMIDITY (RH)	
Type	Thermoset polymer-based capacitance sensor chip (Field Replaceable)
Range	0 - 100% RH
Accuracy	±1.5% RH
Resolution	0.1% RH
Calibration	+/- 10% Offset
TEMPERATURE (TEMP)	
Type	Bipolar transistor sensor chip (Field Replaceable)
Range	0 to 60°C, 32 to 140°F
Accuracy	± 0.2°C, ± 0.4°F (Typical)
Resolution	0.1°C/°F
Calibration	-5 to 5°C Offset, Resolution = 0.1°C ; -10 to 10°F Offset, Resolution = 0.1°F
FORMALDEHYDE (CH <sub>2</sub> O)	
Type	Electrochemical (Field Replaceable)
Range	0 - 1000 ppb or 0 - 1230 ug/m <sup>3</sup>
Accuracy	±10% FS@25°C
Resolution	1 (ppb, ug/m <sup>3</sup> )
Sensor Life Expectancy	>6 years
NETWORK INTERFACE	
Hardware	RS-485, 2-Wire, Modbus
Software	BACnet® or Modbus
Baud Rate	9600, 19200, 38400, 57600, 76800, or 115200
Address Range	BACnet®: 0 - 127, Modbus: 1 - 255
RELAY	
Contact Rating	Form A, 2A max 24Vac/dc
Switching Power	60W, 62.5VA
Setpoint/Hysteresis/Delay	Selectable based on selected sensor
Relay Setpoints (Selectable)	PM Mass Concentration: 50 - 900 ug/m <sup>3</sup> ; VOC: 100 - 500 VOC Index; CH <sub>2</sub> O: 50 - 900 ppb; CO <sub>2</sub> : 500 - 9000 ppm; Humidity: 20 - 90%; Temperature: 5 - 40°C / 40 - 100°F
Relay Configuration	Via BACnet®/Modbus
VISUAL INDICATION	
Display	3.5" full colour graphic LCD
User Interface	Capacitive Touchscreen
Display Options	Viewable or Concealed
Display Parameters	Temperature and Humidity - Standard CO <sub>2</sub> , VOC, PM & CH <sub>2</sub> O - Selectable On/Off
Status Bars	Green/Yellow/Red - Selectable On/Off
Status LED	Green/Yellow/Red - Selectable On/Off
ENCLOSURE	
Material	White PC/ABS, UL94-V0, UV Protected
Connection	Wall plate with screw terminal blocks
Dimensions	124.5 mm H x 94.5 mm W x 29 mm D (4.9" x 3.72" x 1.14")
GENERAL	
Power Supply	12 - 28 Vac/Vdc
Consumption	Maximum 150mA @ 12Vdc, 1.8W
Wiring Termination	Backplate mounted terminal block (14 to 22 AWG)
Operating Conditions	0 to 60°C (32 to 140°F), 0 to 95 %RH non-condensing
Certifications	CE

Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

## QUICK MOUNT ENCLOSURE

The 3-piece construction consists of a backplate, sensor bracket and cover. To install, mount the backplate, complete wire terminations and snap on the cover/sensor bracket module. Once installed, the cover can be removed with a single security screw, which allows access to the replaceable sensor modules and other servicing features.

Connects to a variety of electrical box styles.

Backplate mounted terminals for easy wiring.

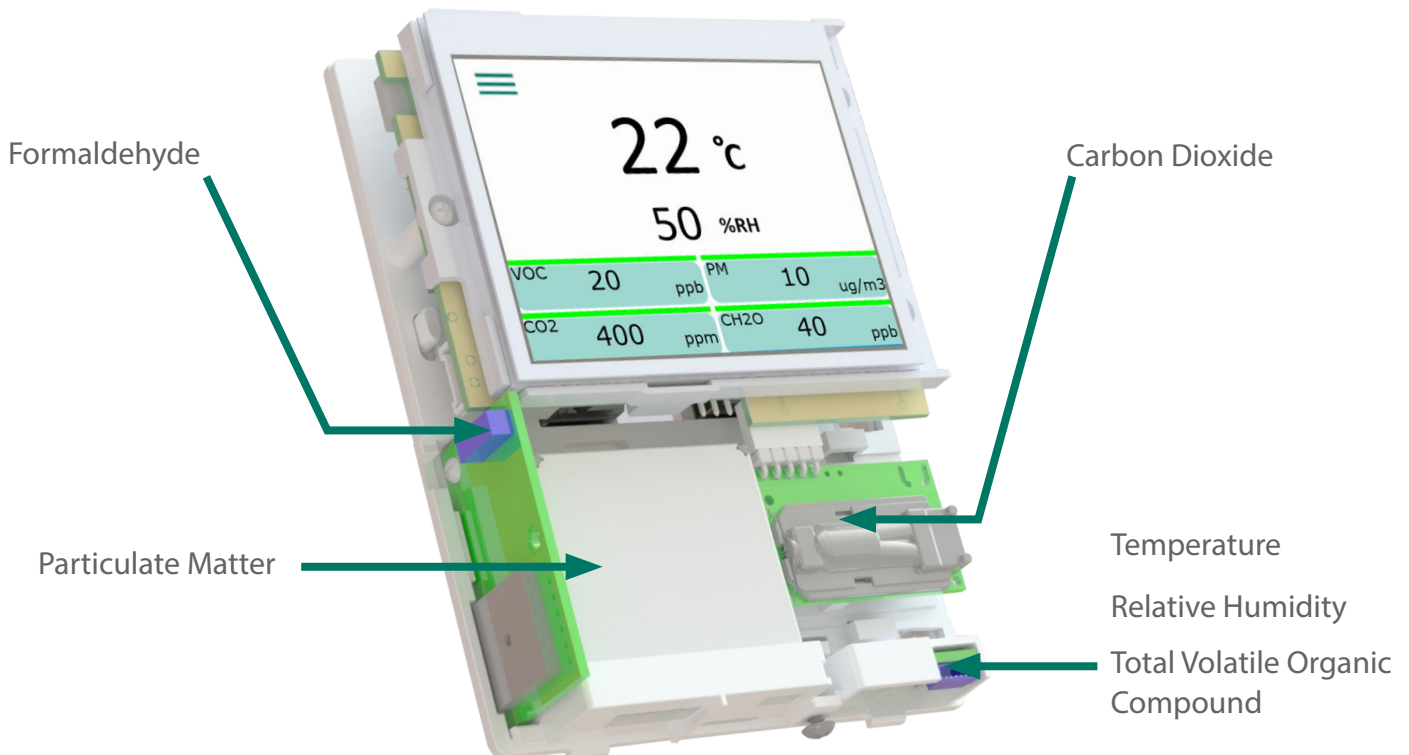
Well-vented for superior air circulation, sampling, and dissipation of any self-generated heat.

Protected from discoloration from UV.

Security screw for easy cover removal.



## REPLACEABLE SENSOR MODULES



# ABOUT GREYSTONE ENERGY SYSTEM INC.

Greystone Energy Systems Inc. is internationally recognized as one of the largest ISO registered manufacturers of HVAC sensors and transmitters for Building Automation Management Systems. Through leading-edge design technology, prompt technical support, a commitment to providing our customers the highest level of service, and over 30 years of experience designing, manufacturing and supplying HVAC sensors and transmitters, we are proud to have established a worldwide reputation as an industry leader.

## OUR MISSION

We are a global family engaged in socially responsible and inclusive operations worldwide. As a provider of high quality sensing and measuring devices to the HVAC industry, we are committed to providing competitively positioned products of superior quality with the following objectives:

- Our customers receive superior value
- Our employees and business partners share in our success
- Our shareholders receive a superior return on their investment

## OUR VISION

To be the premier independent global supplier of high quality sensing and measuring devices to the HVAC industry. This vision is realized through our dedication to:

- Providing exemplary service to our customers.
- Adhering to strict quality standards.
- Our ongoing quest to advance the state of the industry through R&D.
- The genuine pride we take in our work.





AIR FLOW

WATER DETECTION

TEMPERATURE

PRESSURE

HUMIDITY

AIR QUALITY

POWER MONITORING

GAS DETECTION

**ACCURACY BY DESIGN**

Products for the HVAC Professional