GREYSTONE
ENERGY SYSTEMS INC

The AIR41 Indoor Air Quality Sensor uses an advanced MEMS metal oxide semiconductor sensor to detect poor air quality. The sensor reacts quickly to detect a broad range of VOCs such as smoke, cooking odors, bio-effluence, outdoor pollutants and from human activities. The sensor captures all VOC emissions that are completely invisible to CO2 sensors. The AIR4 provides a linear analog signal output of 0-5 or 0-10 Vdc for connection to a building automation system as well as an analog stepped output of 0-10Vdc. Optional features such as a temperature sensor, manual override and adjustible relay output are available.

SPECIFICATION:

Sensing Technology	MEMS metal oxide semiconductor VOC sensor
Measurement Range	450-2000 ppm CO2 equivalent or 0-100% (menu selectable)
Drift Compensation	Automatic baseline correction
Power Supply	20-28 Vac/dc non-isolated half-wave rectified)
Consumption	35 mA max @ 24 Vdc
Input Voltage Effect	Negligible over specified operating range
Protection Circuitry	Reverse voltage protected, over voltage protected
Operating Conditions	0-50 °C (32-122 °F), 5-95 %RH non-condensing
Linear Output Signal	0-5 / 0-10 Vdc (menu selectable) = 0-2000 ppm CO2 equivalent
Analog Stepped Output Signal	Three steps representing Good, Fair and Poor air quality (each step is independently adjustable from 0-10 Vdc)
Output Drive Capability	10 KΩ minimum
Programming and Selection	Via internal push-buttons and LCD menu
Warm-up Time	5 minutes
LCD Resolution	1 ppm / 1 %
LCD Size	1.4" w x 0.6" h (35 x 15 mm) alpha-numeric 2 line x 8 characters
LCD Backlight	Enable or disable via menu
LED Indicator	Tri-color (Good = Green, Fair = Blue, Poor = Red), enable or disable via menu
Wiring Connections	Screw terminal blocks (14 to 22 AWG)
Enclosure	Wall mount enclosure, White ABS IP30 (NEMA 1) 84 w x 119 h x 29 d mm (3.3"w x 4.7"h x 1.15"d)
Weight	122 gm (4.3 oz)
Optional Override Switch	Front panel switch with FET output, 30 Vdc @ 50 mA max
Optional Relay Output	Form A contact (N.O.) 2 Amps @ 140 Vac, 2 Amps @ 30 Vdc (trip point and hysteresis set via menu)
Optional Temperature Sensor	Various thermistors and RTDs, 2-wire resistive output

PART NUMBER SELECTED

PRODUCT SELECTION INFORMATION:

MODEL	Product Description
AIR41	Room Air Quality Monitor, 0-2000 ppm CO2 Equivalent

CODE	LCD Display
0	Concealed
1	Viewable

CODE	LED Indicator, Tri-color
0	Concealed
1	Viewable

| CODE	Optional Temperature Sensor (Leave blank if not required)
T2	100 Ω Platinum RTD, IEC 751, 385 Alpha, thin film
T5	1801 Ω, NTC Thermistor, ±0.2 C
T6	3000 Ω, NTC Thermistor, ±0.2 C
T7	10,000 Ω, type 3, NTC Thermistor, ±0.2 C
T8	2.252K Ω, NTC Thermistor, ±0.2 C
T12	1000 Ω Platinum RTD, IEC 751, 385 Alpha, thin film
T13	1000 Ω Nickel RTD, Class B, DIN 43760
T14	10K Ω, type 3, NTC Thermistor, ±0.2 C c/w 11K shunt resistor
T20	20,000 Ω, NTC Thermistor, ±0.2 C
T24	10,000 Ω, type 2, NTC Thermistor, ±0.2 C

CODE	Options (Multiple selections can be made) (Leave blank if no options required)
S	Push button momentary switch - N.O.
R	Relay Output

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TYPICAL INSTALLATION:

For complete installation and wiring details, please refer to the product installation instructions.

The AIR41 series can be mounted directly to a single gang electrical box or directly to a wall. The backplate includes many mounting hole configurations to allow for mounting on a variety of electrical boxes.

The basic AIR41 has a 4 wire configuration with a screw block terminal provided for connection to the Building Automation System.
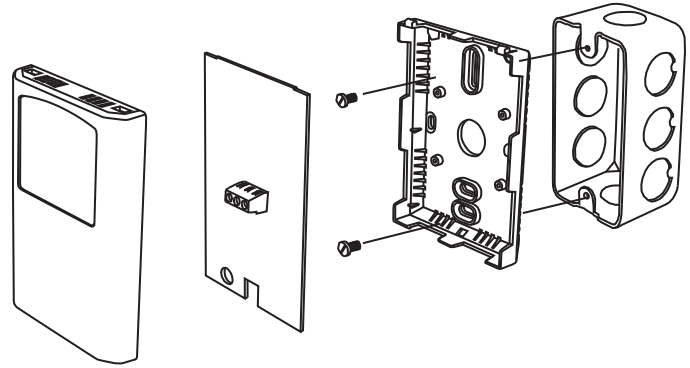

PCB/WIRING INFORMATION
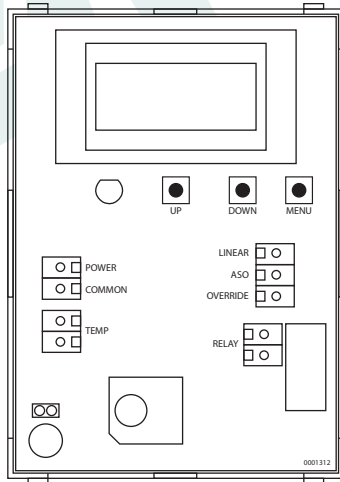
Terminal	Function
POWER	Power input
COMMON	Power and Signal COMMON
LINEAR	Analog Output 0-5 or 0-10 Vdc
ASO	Analog Stepped Output 0-10 Vdc
OVERRIDE	Digital Output
*TEMP	Resistive Temperature Sensor
*TEMP	Resistive Temperature Sensor
*RELAY	Relay Output
*RELAY	Relay Output

* Terminals only present if option ordered

DIMENSIONS:

84 mm
3.3"

29 mm
1.15"

119 mm
4.7"

58 mm
2.3"

82.6 mm
3.25"
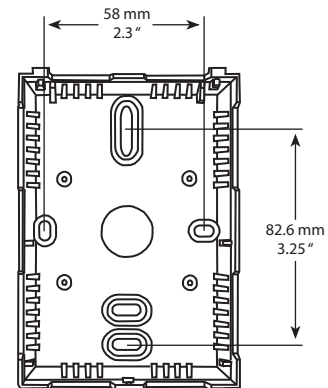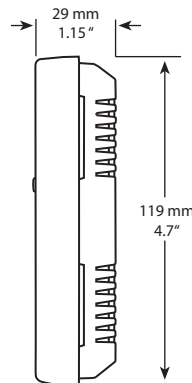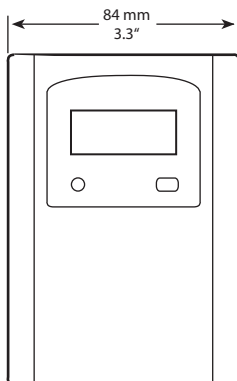
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Greystone Energy Systems Inc. is one of North America's largest ISO registered manufacturers of HVAC/R sensors and transmitters for Building Automation Management Systems. We have conscientiously established a worldwide reputation as an industry leader by maintaining leading-edge design technology, prompt technical support, and a commitment to on-time deliveries. We take pride in our Quality Management System which is ISO 9001 certified, assuring our customers of consistent product reliability.

GREYSTONE HAS AN **ISO 9001** REGISTERED QUALITY SYSTEM