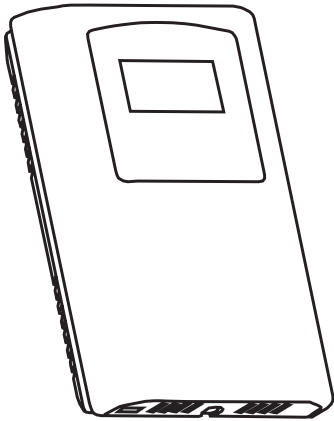




INTRODUCTION

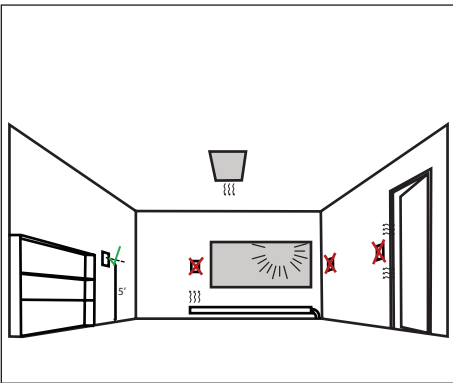
The Room VOC Transmitter uses an advanced MOx (metal oxide semiconductor) sensor to detect poor air quality. The sensor reacts quickly to detect a broad range of VOCs such as smoke, cooking odors, bioeffluence, outdoor pollutants and from human activities. The VOC Sensor also includes a precision temperature sensor. Optional output parameters of humidity are also available. Either a BACnet or Modbus output provide indication of the TVOC level or air quality levels against a VOC index and Temperature or optionally Humidity. Additional add-on features of manual override and adjustable relay output are also available.



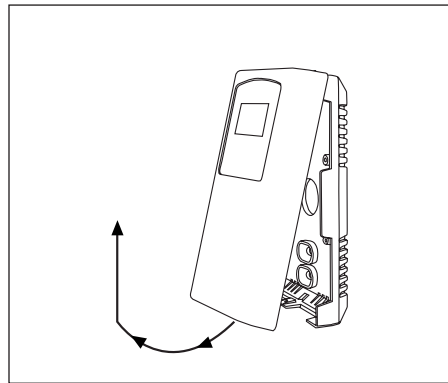
WARNING

Read these installation instructions carefully before commissioning the VOC. Failure to follow these instructions may result in product damage. Do not use in an explosive or hazardous environment, with combustible or flammable gases, as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Use electrostatic discharge precautions during installation and do not exceed the device ratings.

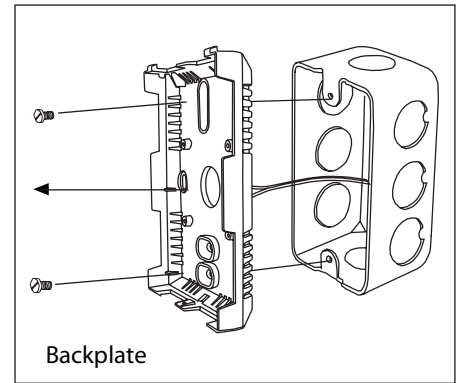
MOUNTING



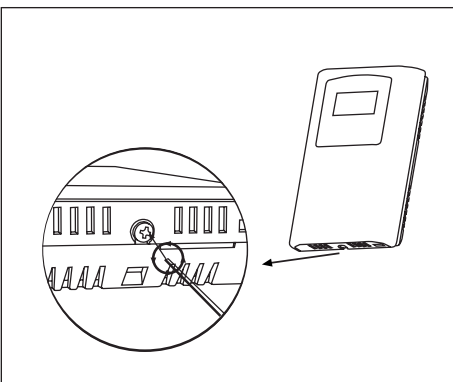
1 The sensor should be mounted 1.5 m (5') from the floor of the area to be controlled. Do not mount the sensor near doors, opening windows, supply air diffusers or other known disturbances. Avoid areas where the detector is exposed to vibrations or rapid temperature changes.



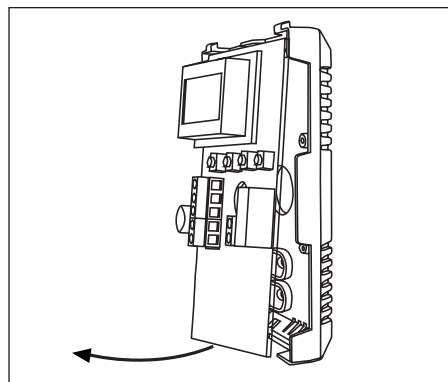
3 Remove cover by pulling outward on bottom.



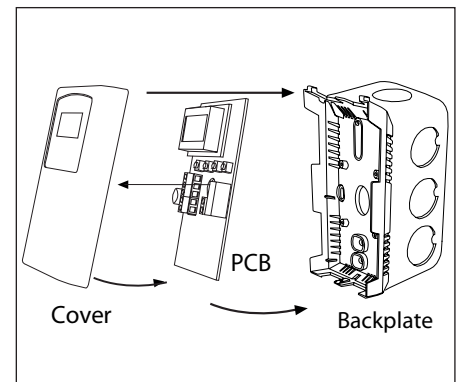
5 Mount the base to the electrical box or directly to the wall. Screws not included.



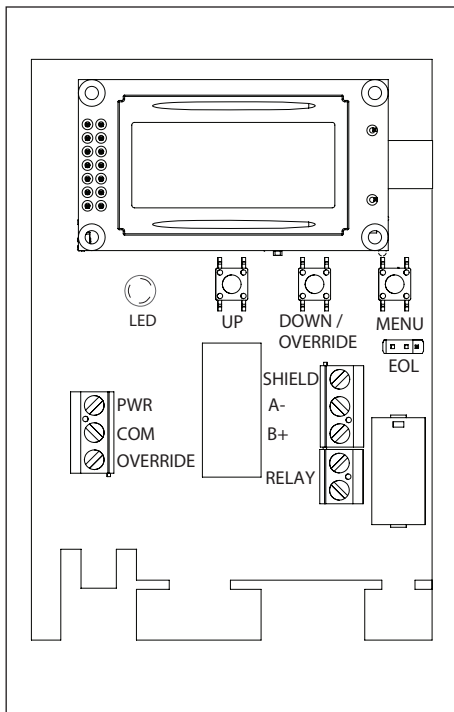
2 Loosen security screw. Complete removal is not required.



4 Remove PCB by pressing the enclosure base to unsnap the latch near the bottom edge, NOTE: For anti-static protection it is recommended to place PCB in the supplied anti-static bag.



6 Replace PCB by inserting in tabs in top of backplate and complete wire terminations. Once wiring is complete, install cover by placing on tabs on top of enclosure and snap bottom into place. Tighten security screw.



7 This device includes a EOL network termination jumper and will connect the (121 Ω) resistor correctly on the PCB. The default is OFF. Simply move the jumper to the ON position.

OPERATIONS



WARNING

The VOC Sensor requires a continuous burn-time of at least 3 weeks before the sensor algorithms provide accurate measurements. During this period the product-to-product readings may show variations. The sensor will calibrate itself over this time to the environment it is installed in.

The VOC Sensor is meant to provide an accurate measurement of INDOOR air quality. Diesel exhaust is not a component of indoor air quality, and the sensor should not be used in such an application.

In normal operation, the VOC Sensor will detect a broad range of reducing gases such as CO and VOCs and translate the measurement into a VOCI (VOC Index) value representing the average TVOC reading. This value is displayed on the LCD in either VOCI, ug/mg³, or ppb as set in the menu.

The **GOOD**, **FAIR** and **POOR** air quality levels will also be displayed on the tri-color front panel LED. The LED colors are displayed as **GOOD=green**, **FAIR = yellow** and **POOR=red**. If required, the LED operation can be disabled via the menu.

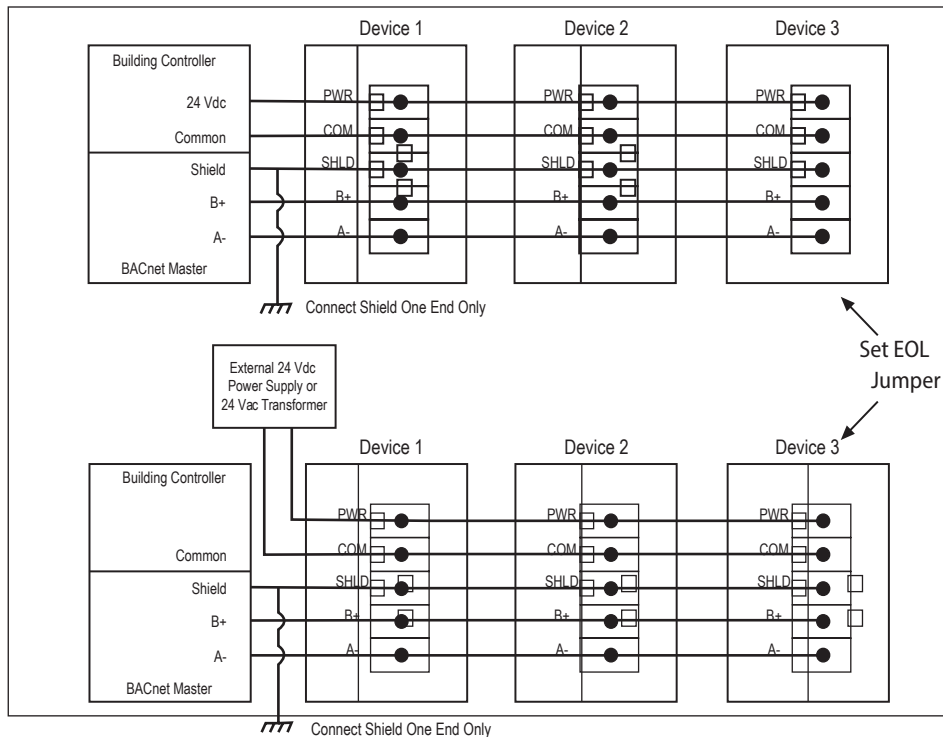
The output can be configured for either BACnet or Modbus in configuration menu.

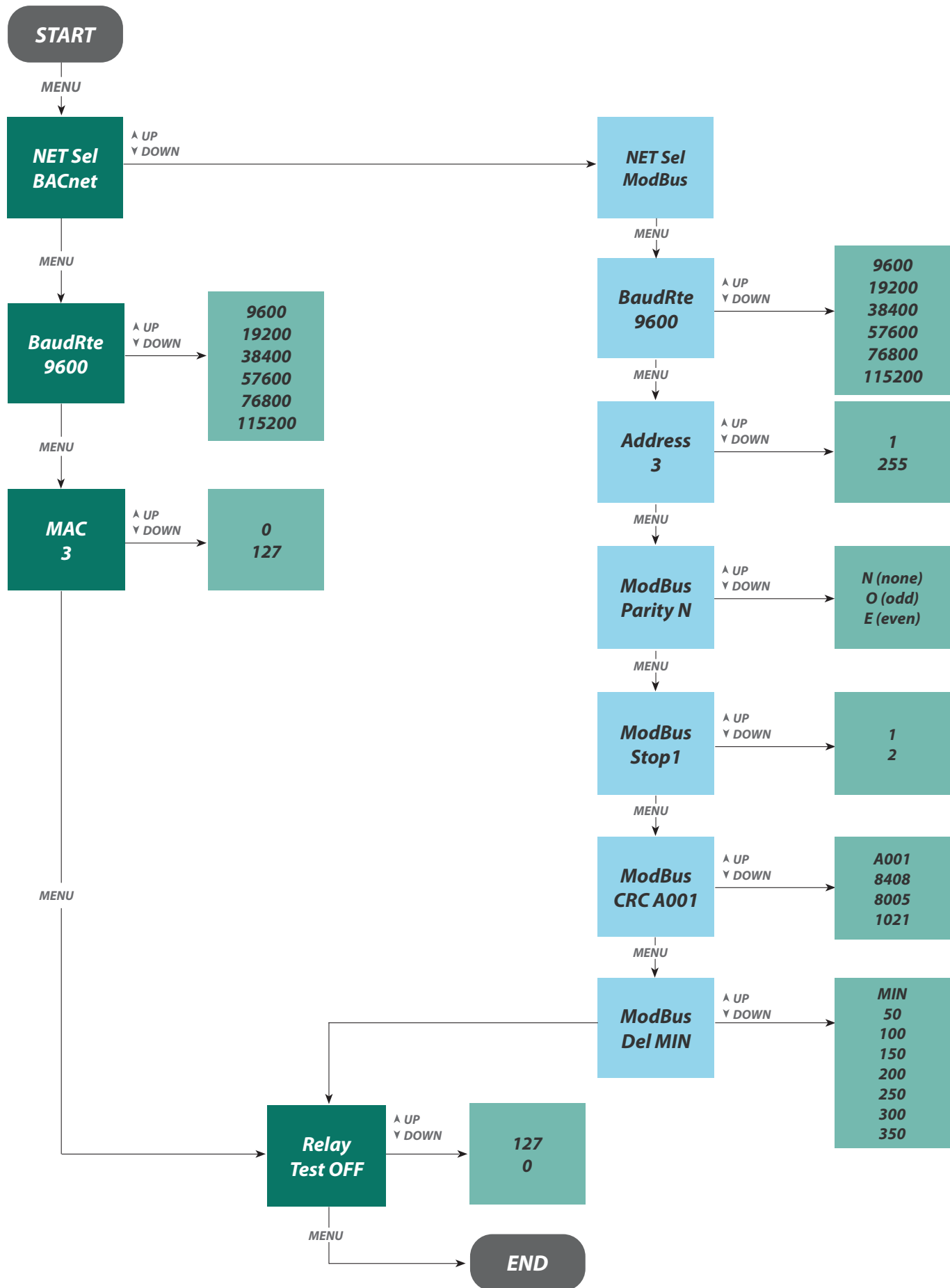
CONFIGURATION

The network type and parameters are configured locally via the Setup menu using the keypad and LCD. Any changes made are saved in non-volatile memory and are restored in case of a power loss. The menu can be accessed at any time after the start-up mode and if there is 5 minutes of inactivity the menu will close and normal operation will continue. All other device parameters are set up via the network.

To enter the menu, press and release the <MENU> key. This will enter the Setup Menu step 1, pressing the <MENU> key a second time saves the setting and advances to step 2. Each press of the <MENU> key saves the current setting and advances the menu item.

The <UP> and <DOWN> keys are used to make changes to program variables by scrolling through the available options. The first column below shows what will be displayed on the LCD, including the default value.





SPECIFICATIONS

VOLATILE ORGANIC COMPOUNDS

Sensor Type:

MOx metal oxide semiconductor

Range:

VOC Index: 0 to 500 VOCI

TVOC: 20 to 6000 ug/m³ or 5 to 1400 PPB

Device Variation:

±15 VOC Index points, or ±15% VOC Index value (the larger value)

Repeatability:

±5 VOC Index points, or ±5% VOC Index value (the larger value)

Drift Compensation:

Automatic baseline correction

TEMPERATURE

Sensor Type: Bipolar transistor sensor chip

Range: 0 to 50°C, 32 to 122°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

OPTIONAL HUMIDITY

Type: Thermoset polymer-based capacitance sensor chip

Range: 0 to 100% RH

Accuracy: ±2% RH

Resolution: 0.1% RH

Calibration:

-10 to 10% RH Offset, Resolution = 1% RH

OUTPUT

Interface: MS/TP, 2-Wire, RS-485

Software: BACnet® or Modbus (selectable)

Baud Rate: 9600, 19200, 38400, 57600, 76800, or 115200 (selectable)

Address Range:

BACnet®: 0-127, Modbus: 1 - 255

GENERAL

Power Supply: 24 Vac/dc ±10%

Consumption: 150 mA max

Wiring: Screw terminal block (14 to 22 AWG)

Operating Conditions:

0 to 50°C (32 to 122°F), 0 to 90 %RH

non-condensing

Storage Conditions:

-20 to 60°C (-4 to 140°F), 0 to 80 %RH

non-condensing

Response Time: <10 seconds

Warm-up Time: 1 minute for detecting

VOC events, 1 hour to meet specifications

Sensor Coverage: 100 m² (1000 ft²) typical

Certifications: CE

Country of Origin: Canada

VISUAL INDICATION

LCD Display:

Alpha-numeric 2 line x 8 characters

LCD Dimensions: 35 x 15mm (1.4" x 0.6")

LCD Backlight: Auto/Enable/Disable via Menu

LCD Resolution:

VOC Index value (0-500), resolution 1

TVOC value 20 to 6000 ug/m³ or 5 to 1400 PPB, resolution 1

Temperature, 0-50°C (32 to 122°F), resolution 1°C(F)

Optional RH, 0-100%RH, resolution 1%RH

LED Indicator:

Tricolor (Green, Yellow, Red) see table, enable or disable via menu

ENCLOSURE

Enclosure:

White ABS, UL94-V0

Protection:

IP30 (NEMA 1)

Dimensions:

84mm W x 117mm H x 29mm D

(3.3" x 4.6" x 1.15")

OPTIONAL RELAY

Contact Rating:

Form A contact 5 Amps @ 30 Vac/Vdc non-inductive load

Relay Setpoints (Selectable):

VOC: 100 - 500 VOC Index;

TVOC: 200 - 5000 ug/ m³

50 - 1300 ppb;

Temperature: 5 - 40°C / 40 - 100°F

Optional Humidity: 20 - 90%;

Setpoint/Hysteresis/Delay:

Selectable based on selected assignment

Relay Configuration:

Via BACnet®/Modbus

Switching Power:

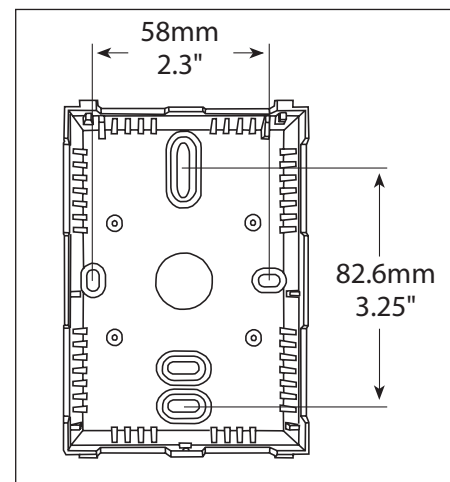
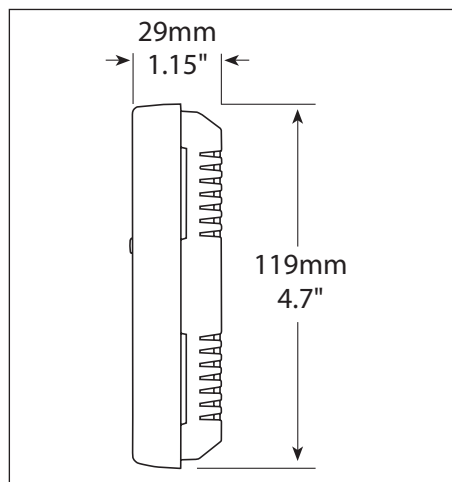
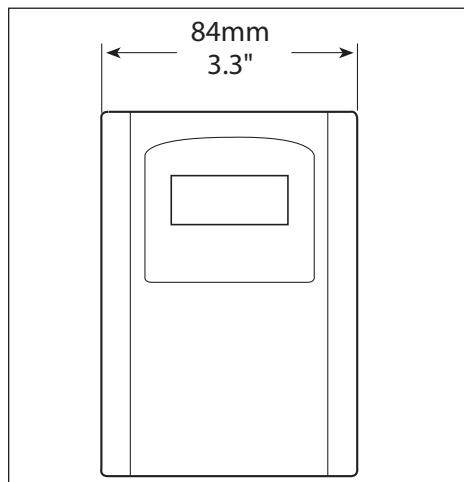
60W, 62.5VA

OPTIONAL MANUAL OVERRIDE

Type: Front panel momentary switch

Override Status: Via BACnet®/Modbus

DIMENSIONS



PRINTED IN CANADA

NETWORK SETUP GUIDE

The network setup guide describes the implementation of the BACnet® or Modbus protocol. It is intended to assist control system programmers who may need to add support to their systems to communicate with this device.

BACnet® and Modbus setup guide downloads are available online.



BACnet® PROTOCOL

<https://downloads.greystoneenergy.com/SG/SG-VOCXXXBAC-001.pdf>



MODBUS PROTOCOL

<https://downloads.greystoneenergy.com/SG/SG-VOCXXXMOD-001.pdf>