GREYSTONE ENERGY SYSTEMS INC

CLEANROOM MONITOR CR3B Series

The CR3B Series Cleanroom Monitor was developed specifically to allow for monitoring of confined spaces with accuracy and reliability. The CR3B allows for either in-room or remote monitoring with three different models; integrated sensors, remote sensors or display only to suit a variety of installation needs. It features a flush fitting stainless-steel front plate that enables the user to wipe-down the unit when necessary.

SPECIFICATIONS:

Temperature Input
- Sensor Type ..... 10KΩ NTC thermistor sensor
- Temperature Range .. 0-50 °C, 32-122 °F
- Accuracy ..... ± 0.2 °C (± 0.4 °F) curve matched

Relative Humidity Input
- Sensor Type ..... Thermoset polymer based capacitive sensor
- RH Range ..... 0-100 %RH
- Accuracy ..... ± 2 %RH
- Hysteresis ..... ± 1.5 %RH
- Stability ..... ± 1.2 %RH typical @ 50 %RH in 5 years

Differential Pressure Input
- Sensor Type ..... MEMS piezo resistive differential sensor
- Pressure Ranges ..... 01 ± 250 Pa or ± 25 mmWC
  02 ± 500 Pa or ± 50 mmWC
- Accuracy ..... ± 0.5 %FS
- Stability ..... ± 0.5 %FS max (1 year)
- Thermal Effect ..... < ± 1 %FS, 0 - 70 °C (32 - 158 °F)
- Proof Pressure ..... 24.9 kPa (2490 mmWC)
- Burst Pressure ..... 74.7 kPa (7470 mmWC)
- Media Compatibility ... Dry air or inert gas

Indication
- Temperature Display ..... 3 digit LED as 0.0-50.0 °C or 32.0-122 °F (°C / °F by LED)
- Relative Humidity Display ..... 3 digit LED as 0.0-99.9 %RH
- Differential Pressure Display .... 3 1/2 digit LED display as -500-500 Pa or -50.0-50.0 mmWC (Pa / mmWC is indicated by an LED)
- Digit Type ..... 7 segment red LED, 0.80" (20.32 mm) high
- Alarm Indication ..... Low / High alarm red LED for each parameter (T+RH+DP)

User Input
- Programming ..... Menu / Up / Down front panel tactile keys
- Alarm Silence ..... Silence front panel tactile key

Analog Outputs
- Signal Type ..... 4-20 mA (sourcing) and 0-5 Vdc / 0-10 Vdc selectable
- Number of Outputs ..... 3 (Temp, RH, DP)
- Output Drive ..... 500 Ω max for 4-20 mA, 10 KΩ minimum for voltage
- Output Scales ..... 0-50 °C, 0-100 %RH, ± 500 Pa

Alarm Outputs
- Number of Outputs ... 3 (Temp, RH, DP), can assign condition as low/high/both
- Output Type ..... NO optically isolated solid state FET switch
- Contact Rating ..... 100 mA at 28 Vac / 40 Vdc maximum
- Trip Point ..... Upper and Lower alarms adjustable
- Alarm Delay ..... 0 to 255 seconds (programmable)
- Operation ..... Self-resetting, non-latching
- Alarm Buzzer ..... Internal, operates on any alarm condition
- Buzzer Delay ..... 0-255 seconds (programmable)
- Operation ..... Self-resetting, can be silenced via silence button or disabled remotely via BACnet® or Modbus

Communication
- Hardware ..... Isolated 2-wire RS-485 MS/TP
- Software ..... Modbus RTU or BACnet®
- Baud Rate ..... 9600, 19200, 38400, 57600, 76800 or 115200
- Address Range ..... 1-255 for Modbus, 0-127 for BACnet®

PART NUMBER SELECTED

CLEANROOM ORDERING INFORMATION

MODEL	Description
CR3	S/S Clean Room Sensor - Temperature, Humidity & Low Pressure

CODE	LCD Display
B	Remote S/S Plate Mounted Sensors

CODE	Pressure Range
01	±250 Pa or ±25 mmWC
02	±500 Pa or ±50 mmWC

CODE	Output
ANA	Analog (3 x)
BAC	BACnet® Communications
MOD	Modbus Communications

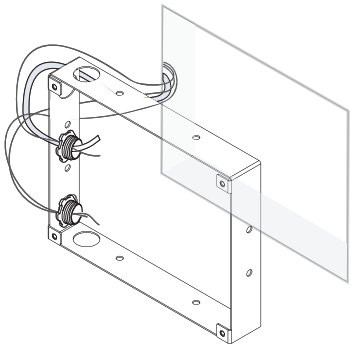
Greystone Energy Systems, Inc. reserves the right to make design modifications without prior notice.

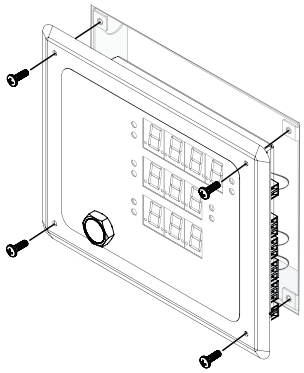
General
- Operating Conditions ..... 0 - 50 °C (32 - 122 °F), 0 - 90 %RH non-condensing
- Storage Temperature ..... -20 - 60 °C (-4 - 140 °F)
- Power Supply ..... 24-30 Vdc / 20-26 Vac
- Power Consumption ..... 200 mA max
- Wiring Connections ..... Pluggable screw terminal block (14 to 22 AWG)
- Pressure Connections ..... Port for 1/8" ID tubing
- Protection ..... IP65 Front plate
- Enclosure ..... Wall mount enclosure, SS304, suitable for wipe-down 225 mm wide x 182.5 mm high x 36 mm deep (8.86" x 7.19" x 1.46")
- Remote Sensor Plate ..... 70 mm wide x 115 mm high x 45 mm deep (2.76" x 4.53" x 1.77")
- Weight ..... 1.3 kg
- Certification ..... CE, RoHS
- Country of Origin ..... Canada

TYPICAL INSTALLATION:

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

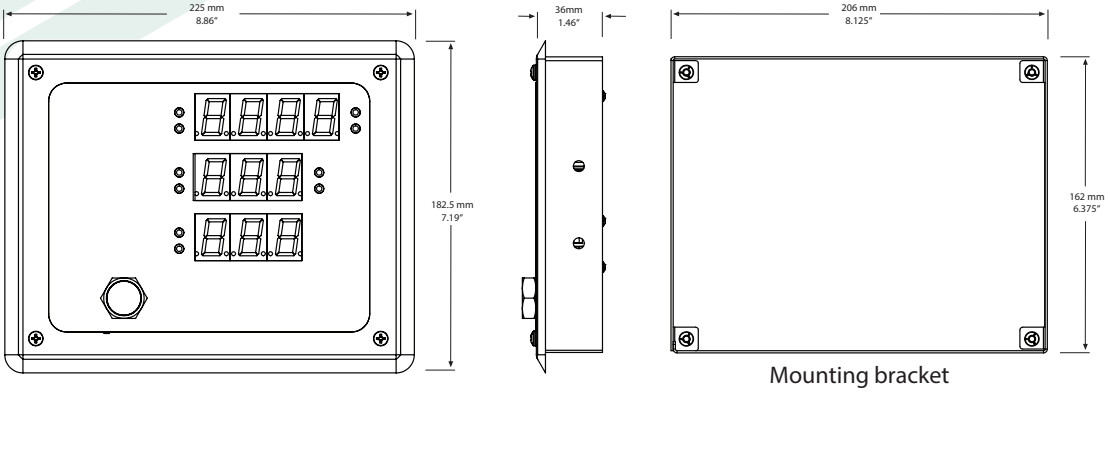
The CR3 should be mounted inside an opening in the wall that is 210 mm wide x 167 mm high. Ensure unit can be secured to wall stud or equivalent on at least two sides.





Remote sensor module for CR3B

DIMENSIONS



Mounting bracket

BACnet® COMMUNICATION

BACnet® is a data communication protocol for building automation and control networks. The detector communicates on a standard 2-wire RS-485 MS/TP (master-slave/token-passing) network designed to run at speeds from 9600 to 76800 baud over twisted pair wiring.

BACnet® is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI). BTL is a registered trademark of BI.

MODBUS COMMUNICATION

Modbus is a network protocol for industrial manufacturing environments. The detector communicates on a standard Modbus network using either of two transmission modes: RTU (Remote Terminal Unit) or ASCII (American Standard Code for Information Interchange). The hardware interface is RS-485. Select the desired mode along with the other parameters using the Configuration Menu.

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ENERGY SYSTEMS INC

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RoHS COMPLIANT

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

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