



Wall Mounted E-BUS CO₂ Sensor Technical Guide



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PART NUMBER CROSS REFERENCE TABLE	
PART DESCRIPTION	PART NUMBER
Wall Mounted E-BUS CO ₂ Sensor	ASM01829
E-BUS LCD Digital Room Sensor Temp Only	ASM01819
E-BUS LCD Digital Room Sensor Temp & RH	ASM01820
E-BUS Digital Room Sensor Temp & RH	ASM02221
EBC E-BUS Cables - varying lengths	See Table 1, Page 3
VCCX2 Controller	ASM01698
VCB-X Controller	ASM01862



This manual is also available for download from our website—www.aaon.com/controlsmanuals—under Sensors, where you can always find the latest literature updates.

AAON, Inc.
 2425 South Yukon Ave.
 Tulsa, OK 74107-2728
www.aaon.com
 Factory Technical Support Phone: 918-382-6450
 Controls Support Phone: 866-918-1100

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INSTALLATION & WIRING

Wall Mounted Space CO₂ Sensor Wiring to Unit Controller

Wall Mounting

The Wall Mounted E-BUS CO₂ Sensor utilizes a sub-base mounting plate with a modular phone jack providing quick and easy mounting and wiring. The wall-mounted sensor's sub-base is compatible with standard junction boxes. A locking screw secures the assembly to the wall.

Optional Mounting Plate

Included with the Wall Mounted E-BUS CO₂ Sensor is a mounting plate that can be used, if necessary, to cover the sensor sheet rock opening. This mounting plate screws onto the back of the housing base. The mounting plate is then mounted and covers the recessed space in the wall. A locking screw secures the sensor to the wall. See **Figure 6, page 7** for dimensions.

Wiring to the Unit Controller

The Wall Mounted E-BUS CO₂ Sensor connects to the VCCX2 or VCB-X Controller with an EBC E-BUS expansion cable. It can be daisy-chained with the E-BUS Digital Room Sensor for applications requiring both a space CO₂ sensor and space temperature sensor. Refer to **Figure 2** for instructions (VCCX2 Controller shown).

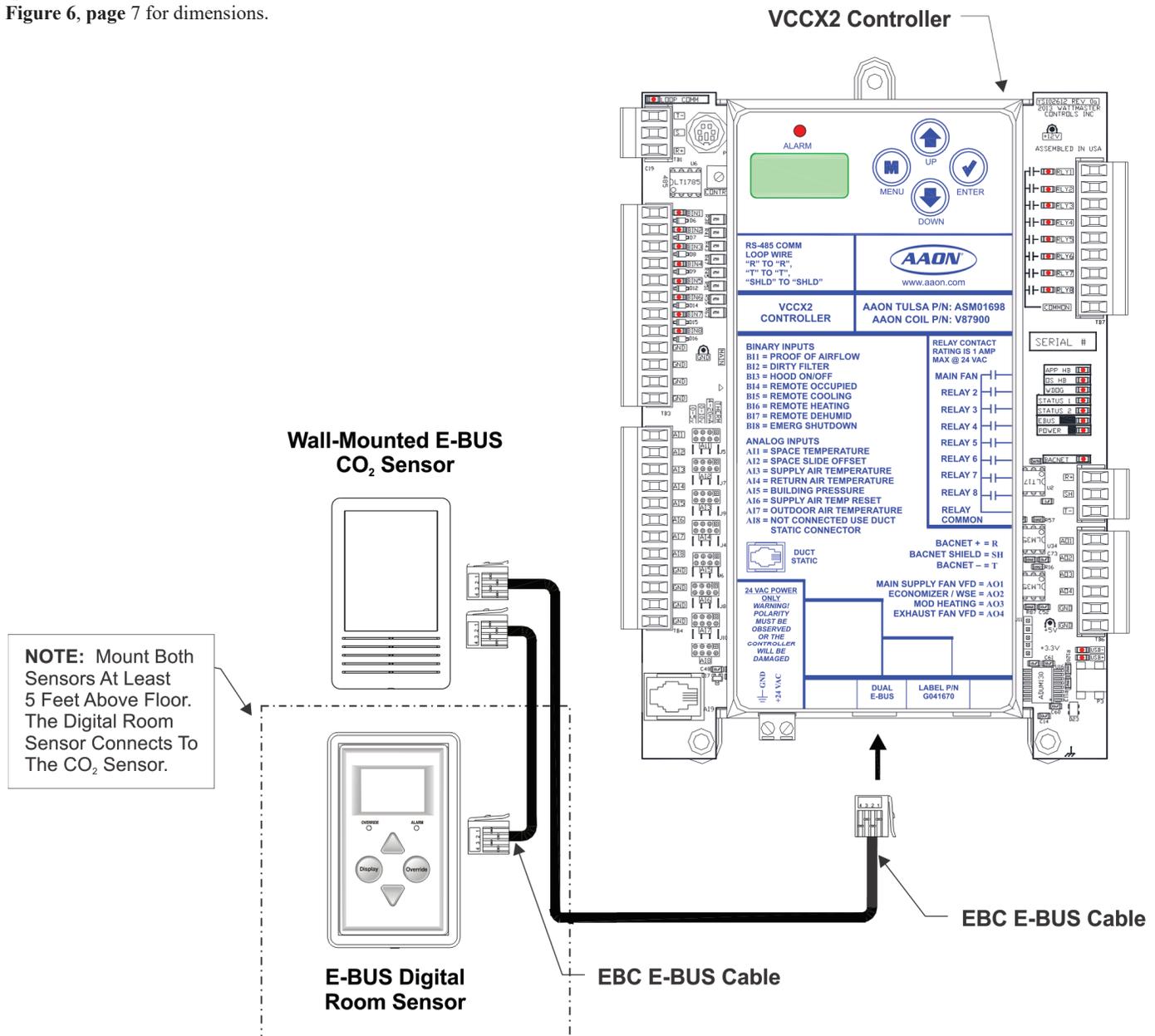


Figure 2: Wall Mounted Space E-BUS CO₂ Sensor & E-BUS Digital Room Sensor Wiring for VCCX2 Controller

Addressing & LEDs On/Off

The Wall Mounted E-BUS CO₂ Sensor is equipped with binary dip-switches. The Address Switch is located on the Sensor's board and is only visible by taking the device off the wall and removing the back cover. See location in **Figure 3**. The default addresses are as follows:

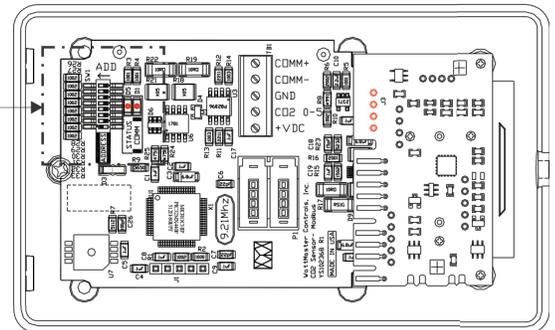
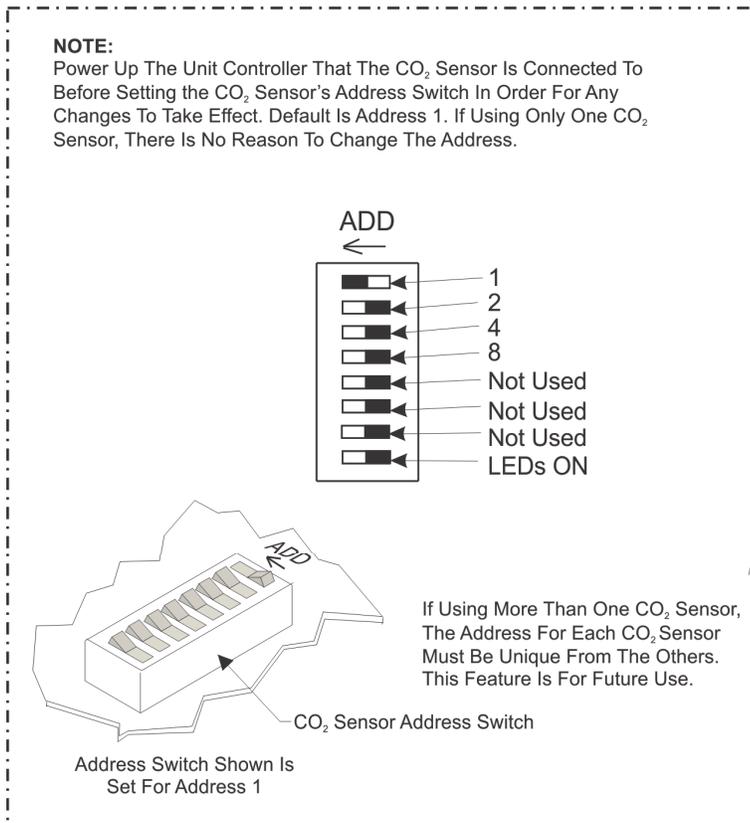
- Space or Return CO₂ Sensor = Address 1
- Supply CO₂ Sensor = Address 2 (Future)
- Open addresses for Custom Applications = 3-15
- LEDs On = Dipswitch 8 ON

NOTE: If you forget to set the address, and all dipswitches are off, the address will default to address 1.

To set the address, follow these instructions:

1. Power up the VCCX2 or VCB-X Controller that the Sensor is plugged into.
2. Set the Dipswitch to the proper setting.
3. The address range can be set from 1 to 15.
4. To verify that the correct address has been entered, refer to the STATUS LED information on **page 6**.

The board address is stored in nonvolatile memory. Once the address is set, the address will be saved after loss of power. See **Figure 3** below for address switch setting information.



E-BUS CO₂ Sensor with Back Cover Removed

Figure 3: Setting the Address and LEDs On/Off Option

TROUBLESHOOTING

Troubleshooting

Using LEDs to Troubleshoot

LEDs are available for troubleshooting the CO₂ Sensor. The LEDs are ON when Dipswitch 8 is on. The LEDs are off when Dipswitch 8 is off. The Front LED is visible through the front cover of the CO₂ Sensor. See **Figure 5** for location. The other LEDs are located on the Sensor's board and are only visible by taking the device off the wall and removing the back cover. See **Figure 4** for locations.

Front LED

When the LEDs are turned on, a green LED will be visible through the front plastic cover of the CO₂ sensor. See **Figure 5**. The Front LED will blink whenever a CO₂ sample is taken. A sample is taken every 30 seconds.

STATUS LED

Initially, the STATUS LED blinks fast for 30 seconds. It then stays on and blinks the board address whenever a CO₂ sample is taken. A CO₂ sample is taken once every 30 seconds.

COMM LED

The COMM LED blinks on whenever communications are sensed.

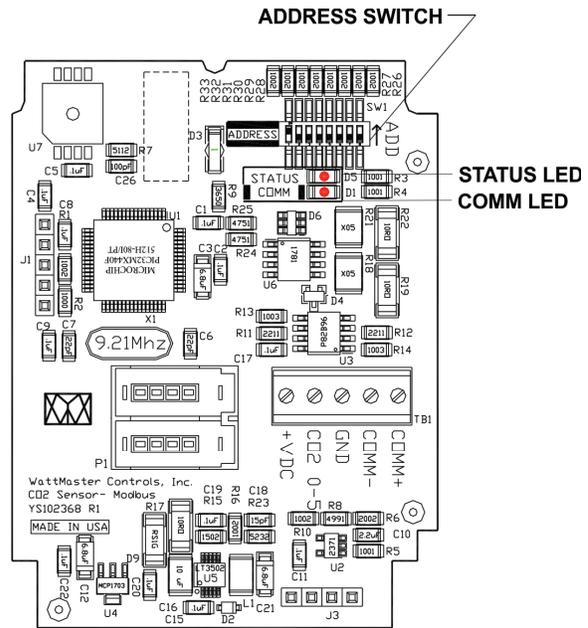


Figure 4: Address Switch and Board LEDs

Altitude Correction

Altitude correction can be configured using one of our operator interfaces. The altitude can be configured at a value of 0-15,000 feet. The default is 500 feet.

TB1 Terminal Block (CO₂ Reading)

The TB1 terminal block should only be used to test the sensor when the sensor cable is plugged into the controller and the sensor and controller are powered up. Directions: Set the meter for DC volts and connect the GND probe to the GND terminal and the + probe to the CO₂ 0-5 terminal. Look at the output voltage and record it. Multiply the voltage times 400. The value should match the CO₂ as read on the System Manager TS, Modular System Manager, Modular Service Tool, or Prism 2. If the signal doesn't match the sensor reading, contact AAON Controls Support.

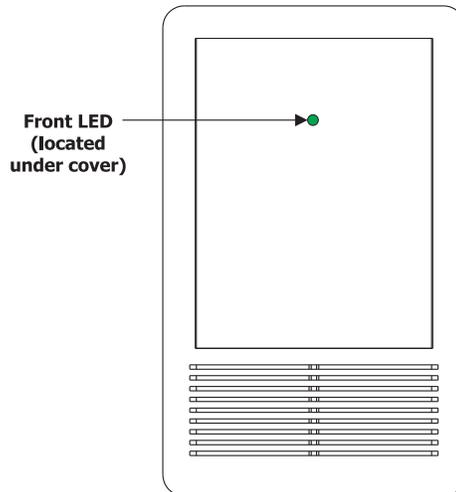


Figure 5: Wall Mounted E-BUS CO₂ Sensor's Front LED

Appendix - Mounting Plate Dimensions

Optional Mounting Plate

Included with the Wall-Mounted E-BUS CO₂ Sensor is a mounting plate that can be used, if necessary, to cover the sensor sheet rock opening. This mounting plate screws onto the back of the housing base. The mounting plate is then mounted and covers the recessed space in the wall. A locking screw secures the sensor to the wall. See **Figure 6**, below for dimensions.

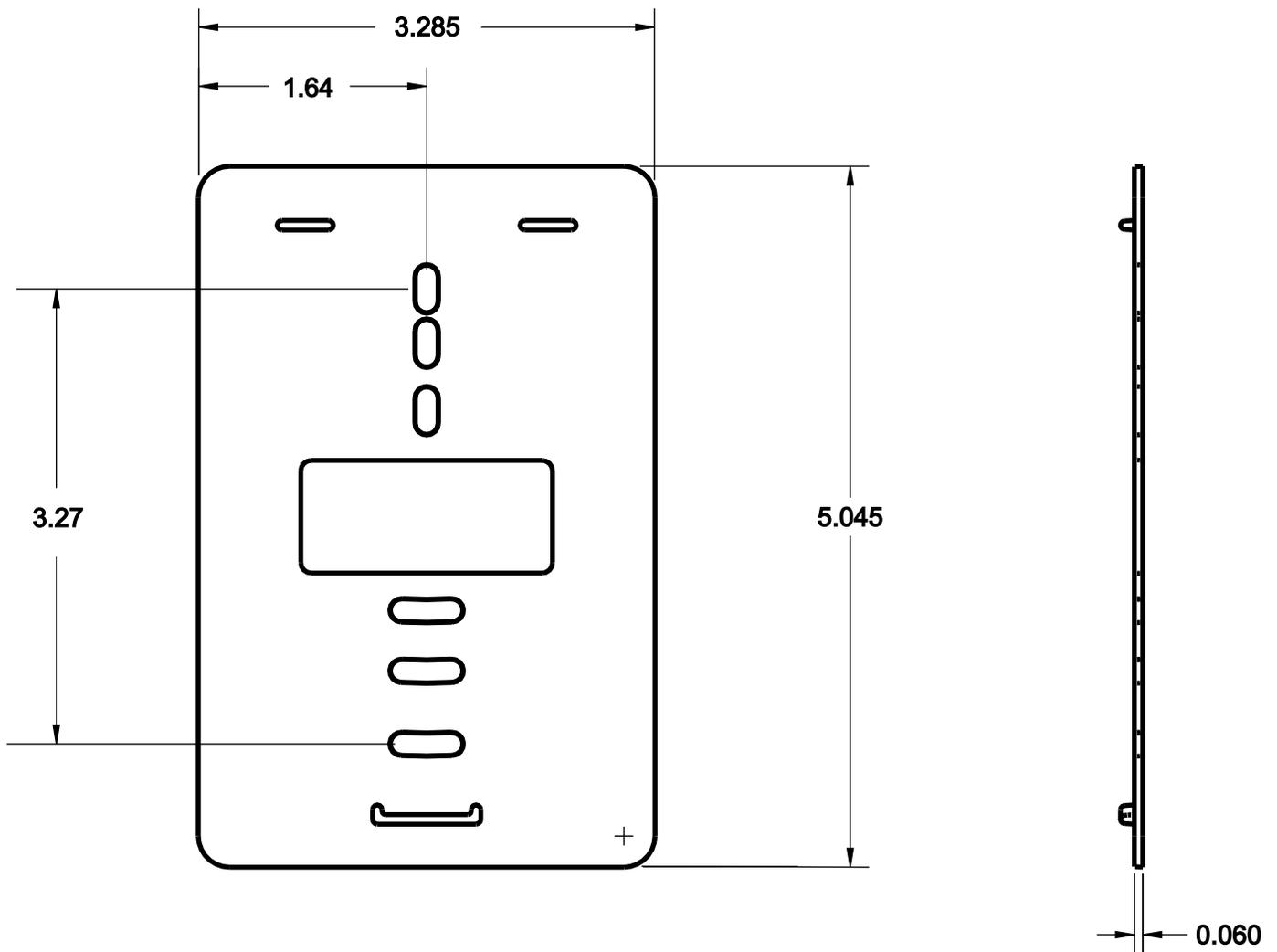


Figure 6: Mounting Plate Dimensions

AAON Factory Technical Support: 918-382-6450
techsupport@aaon.com

AAON Controls Support: 866-918-1100
Monday through Friday, 7:00 AM to 5:00 PM
central standard time.

NOTE: Before calling Technical Support, please have the
model and serial number of the unit available.

PARTS: For replacement parts please contact your local
AAON Representative.



2425 South Yukon Ave • Tulsa, OK • 74107-2728

Ph: (918) 583-2266 • Fax: (918) 583-6094

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