



## STEP 6: USING THE VITALSBRIDGE WITH A STANDARDIZED PATIENT

VITALSBRIDGE 300 200 AND 100

### Overview:

- Before beginning this segment make sure the following have been completed:
  - The VitalsBridge has been connected properly to the patient monitor
  - The VitalsBridge has been connected properly to the device that will be used to control it
  - The VitalsBridge Connector Software or VitalsBridge Mobile App has been downloaded and installed on the device that will be used to control the VitalsBridge
- Basic steps to run the VitalsBridge:
  1. Power on the VitalsBridge
  2. Run the VitalsBridge Connector Software or VitalsBridge Mobile App
  3. Connect the VitalsBridge to the connector software or app
  4. Manually control the desired vitals signs via the connector software or app.
  5. Calibrate vitals signs signals

### Running the VitalsBridge™

#### Power on the VitalsBridge

Press the on/off button to power VitalsBridge on. Once powered on, the VitalsBridge takes approximately 30 seconds to initialize and, if communicating over a network, attempt to connect to the manikin's internal router. The LED below the battery will flash as the VitalsBridge is initializing.



Check the status indicator lights on top of the VitalsBridge instrumentation to determine power and connectivity.

The VitalsBridge instrumentation, depending on the model, has up to 5 LEDs: Power, battery/charge, USB/Serial, Bluetooth and LAN/Wifi.



## Using the VitalsBridge with a Standardized Patient

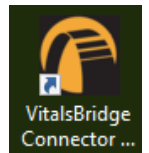
- Power indicator:
  - No light: switched off, or switched on and the VitalsBridge is not plugged into an outlet
  - Solid: switched on and power available to the VitalsBridge
  
- Battery/charge indicator:
  - No light: VitalsBridge is not running
  - Solid: VitalsBridge is on, battery charge > 15%
  - Flashing every 1 second: unit is running on low battery charge < 15%
  
- USB/Serial
  - No light: USB is not ready
  - Solid: USB is ready
  
- Bluetooth
  - No light: Bluetooth is not ready
  - Solid: Bluetooth is ready
  
- WLAN or LAN:
  - No light: not connected to router
  - Solid: VitalsBridge connected to the manikin's internal router or to an external router

**Note:** If you have just reconfigured your VitalsBridge to connect to Wifi, the light will *not* turn on until you have first exited out of the VitalsBridge connection software.

## Run the VitalsBridge Connector Software or VitalsBridge Mobile App

If using a PC, double click on the VitalsBridge Connector icon, labeled VitalsBridge, located on the computer's desktop.

Alternatively, the software may be located by searching for "VitalsBridge" using the Windows search function (i.e., by pressing the  button in Windows 7 and typing in the search dialog or by pressing +S in Windows 8/10).

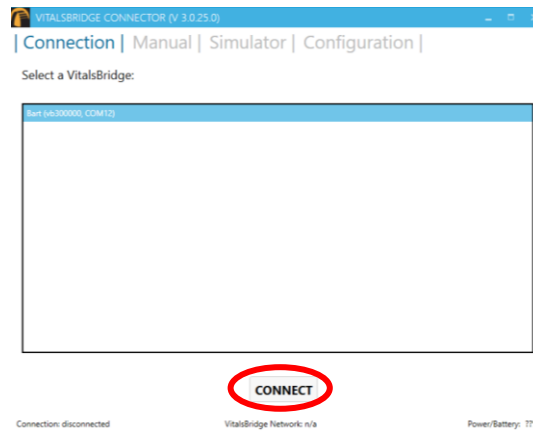


If using an android device, open the app by pressing the VitalsBridge icon.

## Connect the VitalsBridge to the Connector Software or Mobile App

Once the Connector Application is running, any available VitalsBridge units will appear in the Connection tab (any units connected via Bluetooth, Serial, or Ethernet/Wifi for 200/300 units only). Select the correct VitalsBridge unit and press the CONNECT button.

## Using the VitalsBridge with a Standardized Patient



**Note:** If your VitalsBridge does not appear in the list, close out of the program and reopen the software. Make sure the VitalsBridge unit is turned on *before* opening the software.

**Note:** If your VitalsBridge does not appear in the list and the VitalsBridge/PC connection has only just been made, it is possible that the automatic install of the appropriate drivers that run the VitalsBridge have not been completed. Close out of the connector software, wait a minute or two and then reopen the software.

### Manually Controlling Vital Signs

Once connected to the VitalsBridge, it is possible to manually control the vital signs. Touch the + / - to increase or decrease the value. One may also hold the + / - value to make rapid changes or type the desired value into the number box. Use the check boxes to completely turn off any SpO2 signal, set the temperature probe to room temperature, or to zero invasive blood pressures.

**Set ECG Rhythm** → ECG Rhythm: NormalSinus

**Set Heart Rate** → Heart Rate (BPM): 70 + -

**Set SpO<sub>2</sub>** → SpO<sub>2</sub> (%): 95 + -

**Set Temperature** → Temp. 1 (deg. C): [ ] Temp. 2 (deg. C): [ ]

**Set Systolic Blood Pressure (Non Invasive)** → Sys. BP (mmHg): 120 + -

**Set Diastolic Blood Pressure (Non Invasive)** → Dia. BP (mmHg): 80 + -

**Set Systolic Blood Pressure (Invasive)** → Sys. PAP (mmHg): 25 + -

**Set Diastolic Blood Pressure (Invasive)** → Dia. PAP (mmHg): 10 + -

**Set CVP** → CVP (mmHg): 6 + -

**Set RR** → RR (BrPM): 12 + -

**Set etCO<sub>2</sub>** → etCO<sub>2</sub> (mmHg): 35 + -

**Set Extrasystole Frequency Percentage** → [Slider]

SpO<sub>2</sub> Probe Off

Room Temp

Zero ABP

Zero PAP

Zero CVP

Checking this box will simulate the removal of an SpO<sub>2</sub> probe from a finger

Temperature adjustment boxes will show when "Room Temp" is unchecked (for additional information see "Calibration" Section)

For additional information on zeroing blood pressure see "Calibration" Section

**Set CO<sub>2</sub> Waveform** → Normal

**Note:** the VitalsBridge 100 and 200 units will have fewer vital signs shown.

## Using the VitalsBridge with a Standardized Patient Calibrations

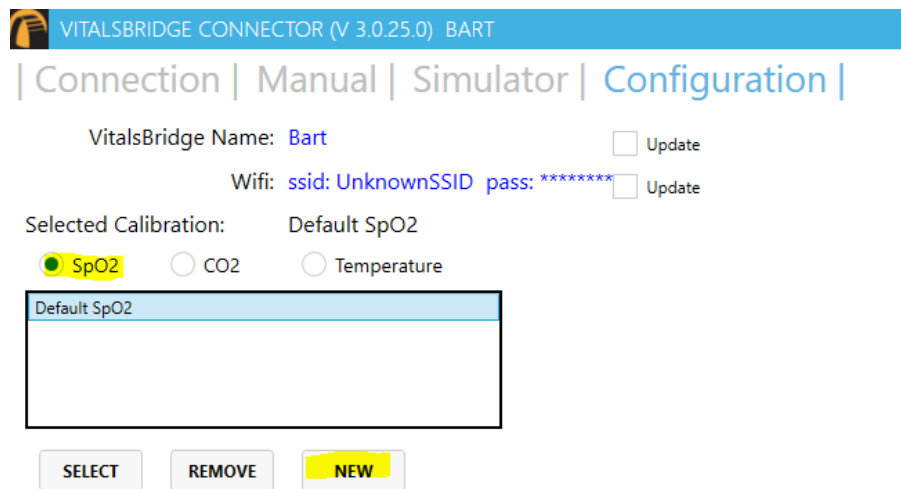
It may be necessary to calibrate the vitals signs to your specific monitor. For instructions on how to complete the calibrations from the VitalsBridge Connector Software see below.

### SpO<sub>2</sub> Calibration

The VitalsBridge is pre-calibrated with factory settings for a Nellcor standard probe. SpO<sub>2</sub> Calibrations are stored on the VitalsBridge. If the set SpO<sub>2</sub> value significantly deviates from the value on the vitals sign monitor, then it is possible to use your own calibration. To perform a new calibration, first ensure the adapter is configured correctly. Next, under the Configuration Tab, Choose SpO<sub>2</sub> under “Selected Calibration” and press the NEW button.

**Note:** When performing a calibration, it works best if the disposable SpO<sub>2</sub> probe (the “mock probe”) supplied is **NOT** connected to the adapter box.

(If the disposable SpO<sub>2</sub> probe is connected, it needs to be *on* a finger or something of the like. While it does not take an SpO<sub>2</sub> reading of the thing it is surrounding (finger, manikin, etc...), a light sensor indicates that it is in use. If the light sensor is not activated it will cause problems with the calibration.)



VITALSBRIDGE CONNECTOR (V 3.0.25.0) BART

| Connection | Manual | Simulator | Configuration |

VitalsBridge Name: Bart  Update

Wifi: ssid: UnknownSSID pass: \*\*\*\*\*  Update

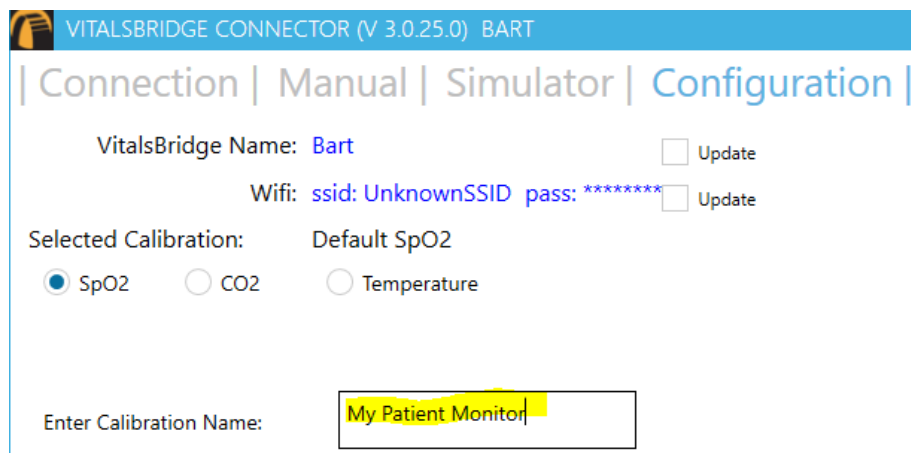
Selected Calibration: Default SpO2

SpO2  CO2  Temperature

Default SpO2

SELECT REMOVE **NEW**

Choose a name for the calibration:



VITALSBRIDGE CONNECTOR (V 3.0.25.0) BART

| Connection | Manual | Simulator | Configuration |

VitalsBridge Name: Bart  Update

Wifi: ssid: UnknownSSID pass: \*\*\*\*\*  Update

Selected Calibration: Default SpO2

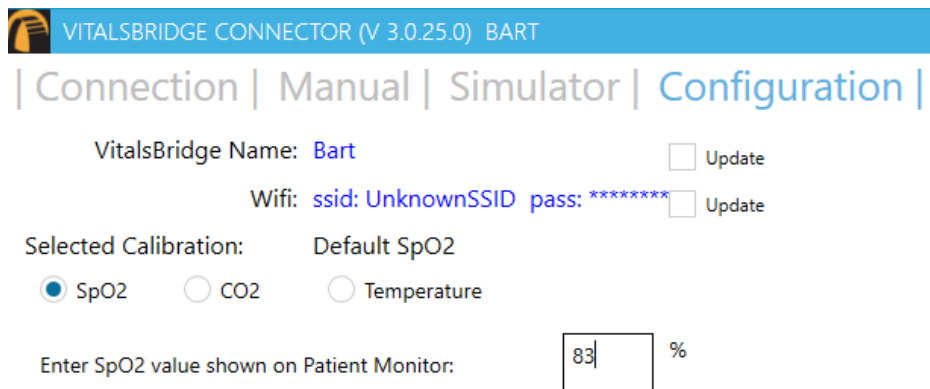
SpO2  CO2  Temperature

Enter Calibration Name: My Patient Monitor

The user interface will instruct you to wait for a period of time and then to enter the SpO<sub>2</sub> reading shown on the patient monitor.

## Using the VitalsBridge with a Standardized Patient

**Note:** Wait until the SpO<sub>2</sub> reading has stabilized on the monitor before entering the value. Some vital signs monitors will filter and average the SpO<sub>2</sub> value, and there may be a several second delay before the reading changes and stabilizes.



VITALSBRIDGE CONNECTOR (V 3.0.25.0) BART

| Connection | Manual | Simulator | Configuration |

VitalsBridge Name: **Bart**  Update

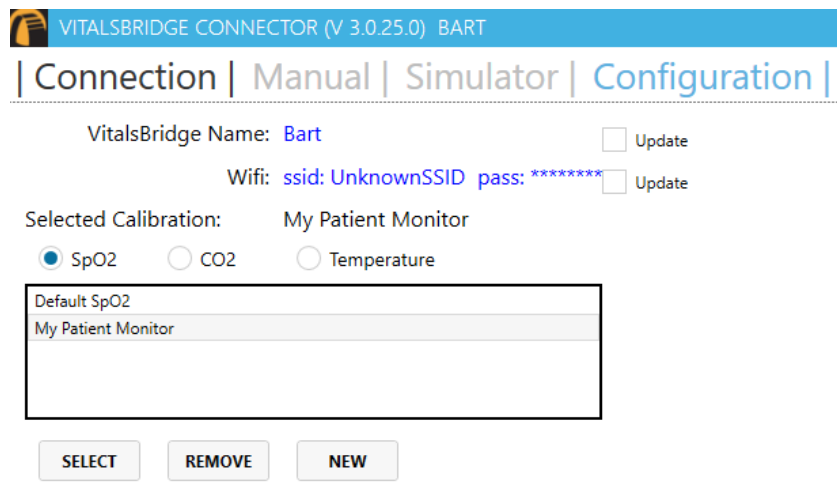
Wifi: ssid: UnknownSSID pass: \*\*\*\*\*  Update

Selected Calibration: Default SpO<sub>2</sub>

SpO<sub>2</sub>  CO<sub>2</sub>  Temperature

Enter SpO<sub>2</sub> value shown on Patient Monitor:  %

Additional calibration entries are shown and the process of entering in a SpO<sub>2</sub> value is repeated until enough points are found for an accurate calibration reading. Once enough points are found, the calibration is automatically saved and selected.



VITALSBRIDGE CONNECTOR (V 3.0.25.0) BART

| Connection | Manual | Simulator | Configuration |

VitalsBridge Name: **Bart**  Update

Wifi: ssid: UnknownSSID pass: \*\*\*\*\*  Update

Selected Calibration: My Patient Monitor

SpO<sub>2</sub>  CO<sub>2</sub>  Temperature

Default SpO <sub>2</sub>
My Patient Monitor

Unused custom calibrations may be removed by highlighting the desired calibration to remove and pressing the REMOVE button.

### CO<sub>2</sub> Calibration (VB300 only)

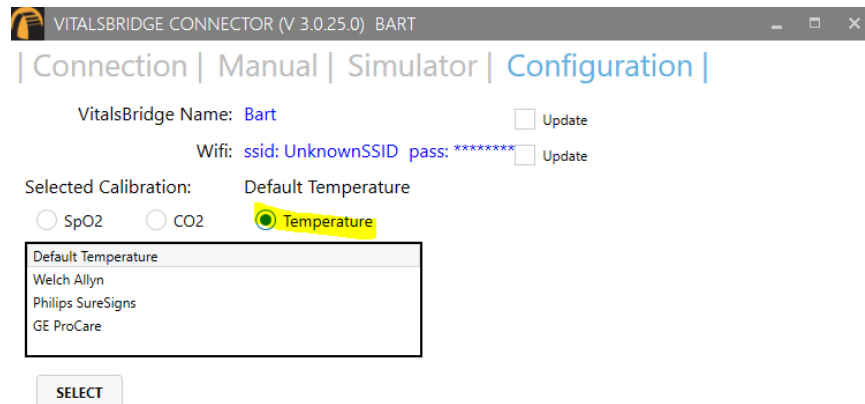
Calibration may be needed if the end-tidal CO<sub>2</sub> reading on the patient vital signs monitor does not properly match the CO<sub>2</sub> waveform on the Instructor Application. CO<sub>2</sub> calibration is performed in a similar manner as SpO<sub>2</sub>.

1. Select the CO<sub>2</sub> radio button and press NEW.
2. Enter the name of the custom calibration
3. As per the instructions on the user interface, wait several seconds and enter the end-tidal CO<sub>2</sub> value (mmHg) shown on the patient monitor.
4. Repeat step 3 for a number of calibration points.

## Using the VitalsBridge with a Standardized Patient

### Temperature Calibration Selection

The default temperature calibration selection is appropriate for most critical care patient monitors. Select the Default Temperature setting in the Configuration tab of the VitalsBridge Connector.



There are a few other non-custom calibrations provided for “Spot Check” monitors.

### Obtaining a Temperature Reading on a “Spot-Check” Monitor

1. Choose the appropriate spot-check monitor from the list of temperature calibrations from the Calibration tab in the VitalsBridge Connector.
2. Ensure the temperature probe on the spot-check monitor is placed in the cradle.
3. Ensure the “Room Temperature” checkbox on the VitalsBridge connector app is selected.
4. Take the temperature probe on the spot-check monitor from its cradle, followed by unchecking the “Room Temperature” checkbox.
5. Wait for the monitor to take a reading.

### Zeroing the Invasive Blood Pressure(s) (VB300 only)

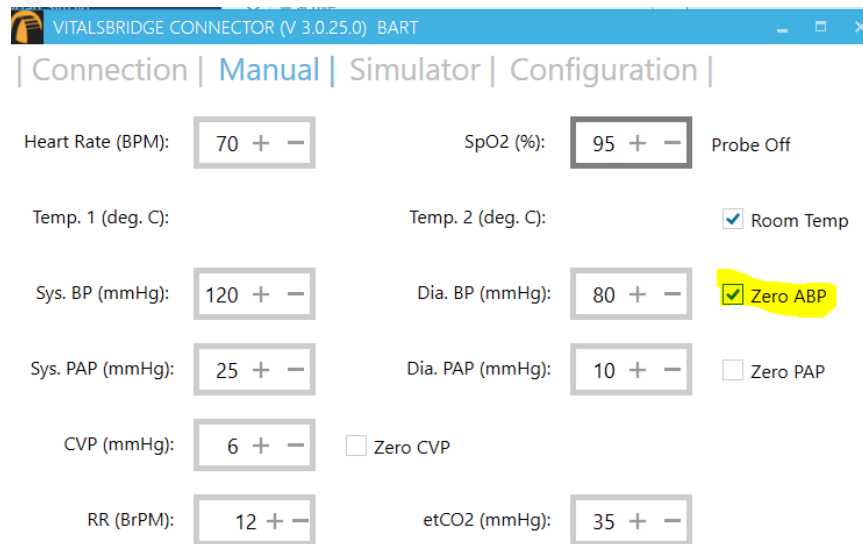
IBPs may be zeroed by setting the blood pressure waveform to “Flat Line” in the software used to control your patient simulator. Refer to your patient monitor's documentation for procedures of zeroing the pressures within the monitor's user interface. Once the pressures are zeroed on the monitor, deselect and apply the “Flat Line” setting in the Instructor Application to allow the waveforms to reappear. If the blood pressure readings differ significantly from the values set in the Instructor Application, then attempt to re-zero.

*Step 1 (Simulator):* In the simulator's instructor application, locate where the waveform may be “zeroed” or “flatlined”.

-or-

*Step 1 (Manual):* In the Manual tab of the VitalsBridge connector, select the checkbox of the invasive blood pressure you wish to zero.

## Using the VitalsBridge with a Standardized Patient



VITALSBRIDGE CONNECTOR (V 3.0.25.0) BART

| Connection | Manual | Simulator | Configuration |

Heart Rate (BPM): 70 + - SpO2 (%): 95 + - Probe Off

Temp. 1 (deg. C): Temp. 2 (deg. C):  Room Temp

Sys. BP (mmHg): 120 + - Dia. BP (mmHg): 80 + -  Zero ABP

Sys. PAP (mmHg): 25 + - Dia. PAP (mmHg): 10 + -  Zero PAP

CVP (mmHg): 6 + -  Zero CVP

RR (BrPM): 12 + - etCO2 (mmHg): 35 + -

*Step 2:* Use the patient monitor's user interface and activate the zero function for the corresponding invasive pressure. Consult your patient monitor's user manual on instructions for how to zero an invasive blood pressure. Verify that the zero has succeeded and is showing a value of 0 on the patient monitor.

*Step 3:* Uncheck the checkbox in the Manual tab from Step 1, or disable the zero on the patient simulator's instructor software.

### Pulmonary Capillary Wedge Pressure Simulation (VB300 only)

Simulation of wedging a small pulmonary artery by inflating a balloon to measure the pulmonary capillary wedge pressure (PCWP) is accomplished by checking the PCWP checkbox in the Manual tab of the VitalsBridge connector. This will send a PCWP waveform from the VitalsBridge to the vital signs monitor using the PAP connection. Adjust the value of the PCWP value by using the + - on the VitalsBridge. If a patient simulator is generating the PCWP waveform, click the checkbox on the Simulator tab to change the waveform from PAP.

## Support

For technical assistance, contact VitalsBridge customer support:

- [support@vitalsbridge.com](mailto:support@vitalsbridge.com)
- 1-435-200-3402
- 1-801-484-3820