

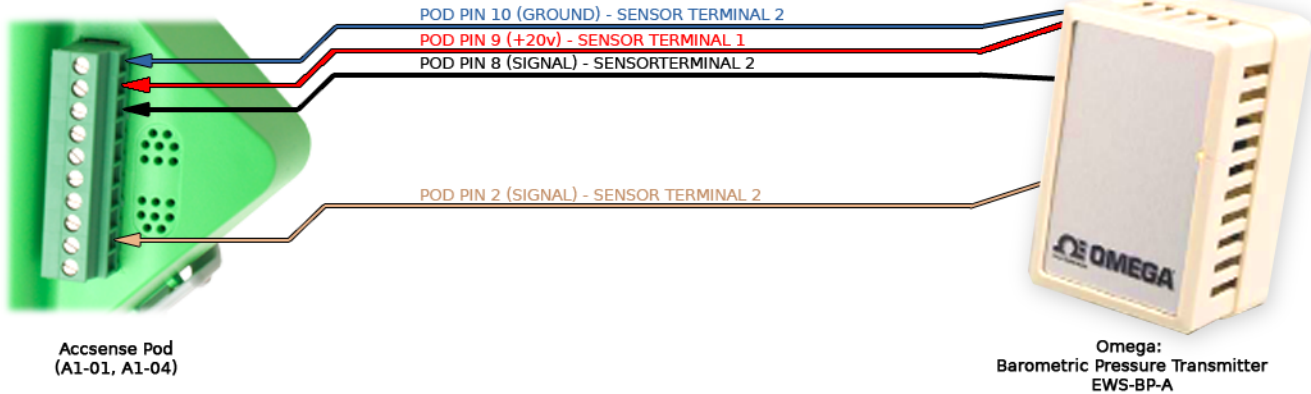
Overview:

The purpose of this document is to illustrate the proper connection and configuration of an Omega Engineering Barometric Pressure Transmitter EWS-BP-A. The sensor can connect to any pod with a 0-5v Analog Input and +20V Source.

Pod Choices: **A1-01 A1-04**

Connects to Pod Input: **+20V, 0-5v, Ground**

Connection Diagram:



Coefficient Calculation:

This sensor utilizes the 0-5v input to measure barometric pressure. Because it is a linear transfer function, coefficients 3 and 4 are not used. The displayed units are in inHg.

Coefficient Equation:

$$displayed_value = coeff_1 + coeff_2 \cdot [value] + coeff_3 \cdot [value]^2 + coeff_4 \cdot [value]^3$$

$v_{out_MIN} = 1.0$
 $v_{out_MAX} = 5.0$
 $press_{out_MIN} = 20.8$
 $press_{out_MAX} = 32$

$$Sensitivity = \frac{v_{out_MAX} - v_{out_MIN}}{press_{out_MAX} - press_{out_MIN}} = 357.1429 \times 10^{-3} \text{ volts/inHg}$$

$$coeff_1 = press_{out_MIN} - \frac{v_{out_MIN}}{Sensitivity} = 18 \quad coeff_2 = \frac{5}{Sensitivity \cdot 1024}$$

General	Info	Advanced
Calibration Coefficient-1: <input type="text" value="18"/>		
Calibration Coefficient-2: <input type="text" value="13.6719E-3"/>		
Calibration Coefficient-3: <input type="text" value="0"/>		
Calibration Coefficient-4: <input type="text" value="0"/>		

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