Wheatstone Bridge Phidget

Bridge-based sensors are are a common type of resistive sensor that produce a very small voltage drop. Load cells, strain gauges, pressure sensors, and piezoelectric sensors are all examples of sensors that usually operate in this way. In order to measure these tiny voltage changes, you need a Wheatstone bridge input. The Wheatstone Bridge Phidget uses a high-resolution ADC to to read up to two of these signals and plugs into any **VINT port**. See the “Compatible Products” tab for a list of VINT Hubs.

Accurate and Adjustable

This board is equipped with a 24-bit analog to digital converter, resulting in accurate measurements at resolutions as high as 59.6 ?µV/V. The bridge gain can be changed in software to 1, 2, 64, or 128, allowing you to get the best resolution for the range of the sensor you use. An error event will be launched whenever the measurement value saturates, so your program can dynamically change the gain when necessary.

Product Specifications

Board	
Controlled By	VINT
Number of Bridge Inputs	2
Bridge Inputs	
Bridge Voltage Resolution	59.6 nV/V
Sampling Interval Max	60 s/sample
Sampling Interval Min	20 ms/sample
Bridge Current Max	50 mA
Input Voltage Limit Min	Ground + 0.25V DC
Input Voltage Limit Max	5V Supply – 0.25V DC
Electrical Properties	
Current Consumption Min	25 ?¼A
Current Consumption Max	*bridge current plus 1.5 mA
Physical Properties	
Recommended Wire Size	16 – 26 AWG
Operating Temperature Min	-40 °C
Operating Temperature Max	85 °C

* – The extra 1.5mA of current consumption varies depending on the data interval selected. See the technical section of the User Guide for details. Additional gain-sensitive specifications can also be found there.