Isolated Thermocouple Phidget

When you need to measure extreme temperatures beyond the range of ordinary sensors, or when you need to measure temperatures in enclosed spaces or in liquids, a thermocouple is just what you're looking for. With one **VINT port** on your hub, you can interface a J, K, E or T type thermocouple, chosen in software and converted to degrees Celsius automatically (See the "Compatible Products" tab for a list of VINT Hubs). If you have other thermocouple types, you can open the channel in VoltageInput mode and convert to Celsius manually using a formula; See the User Guide for more information.

Long Wires

One of the major advantages of using a thermocouple is the capability of using long wires. Thermocouples have been known to work with segments as long as 100m, while USB and other sensors suffer from voltage drops after 5 or 10m. You can find thermocouple extension wire on the Compatible Products tab. Please note that the longer you make your thermocouple wires, the more likely it is that you'll experience noise and interference. For more information, see our document on Addressing Electromagnetic Interference.

Isolated for Stability

This Phidget is electrically isolated, allowing you to measure electrically noisy solutions (for examplle, a tank of water that has an electric pump running inside it). If you don't need isolation and want more thermocouples per VINT port, have a look at the "Other Thermocouple Boards" tab.

Product Specifications

Board	
Controlled By	VINT
Number of Thermocouple Inputs	1

Thermocouple Input	
Thermocouple Voltage Resolution	1 ¼V DC
Thermocouple Voltage Noise	6 ¼V DC
Thermocouple Error Max (K-Type)	± 2 °C
Thermocouple Temperature Resolution (K-Type)	0.01 °C
Sampling Interval Min	20 ms/sample
Sampling Interval Max	60 s/sample
Onboard Temperature Sensor	
Temperature Error Max	± 1 °C
Sampling Interval Max	60 s/sample
Sampling Interval Min	300 ms/sample
Temperature Error Typical (At 25?°C)	± 0.25 °C
Temperature Max	85 °C
Temperature Min	-40 °C
Temperature Resolution	0.06 °C
Electrical Properties	
Current Consumption Max	17 mA
Physical Properties	
Recommended Wire Size	16 – 26 AWG
Operating Temperature Min	-40 °C
Operating Temperature Max	85 °C