

SparkFun Qwiic Thermocouple Amplifier - MCP9600 (Screw Terminals)

SEN-16295

The MCP9600 Breakout is a high accuracy Thermocouple Amplifier equipped with an I²C interface, accessed over our Qwiic system. Inside the chip are two temperature sensors, one for the thermocouple itself (the hot junction) and one for the chip itself (the cold junction). As a result, the MCP9600 can read both the ambient temperature and the temperature of whatever you're trying to measure! The MCP9600 can do both with a resolution of 0.0625°C, and an accuracy of ±1.5°C (worst-case). The MCP9600 Thermocouple Amplifier is one of our many Qwiic compatible boards! Simply plug and go. No soldering, no figuring out which is SDA or SCL, and no voltage regulation or translation required!

This version of the board comes equipped with screw terminals to allow for your own Thermocouple's wiring to be hooked up with the turn of a screw. This makes it perfect for a variety of applications, from measuring the temperature of your Crock-Pot to making sure your backyard induction furnace is up to temperature.

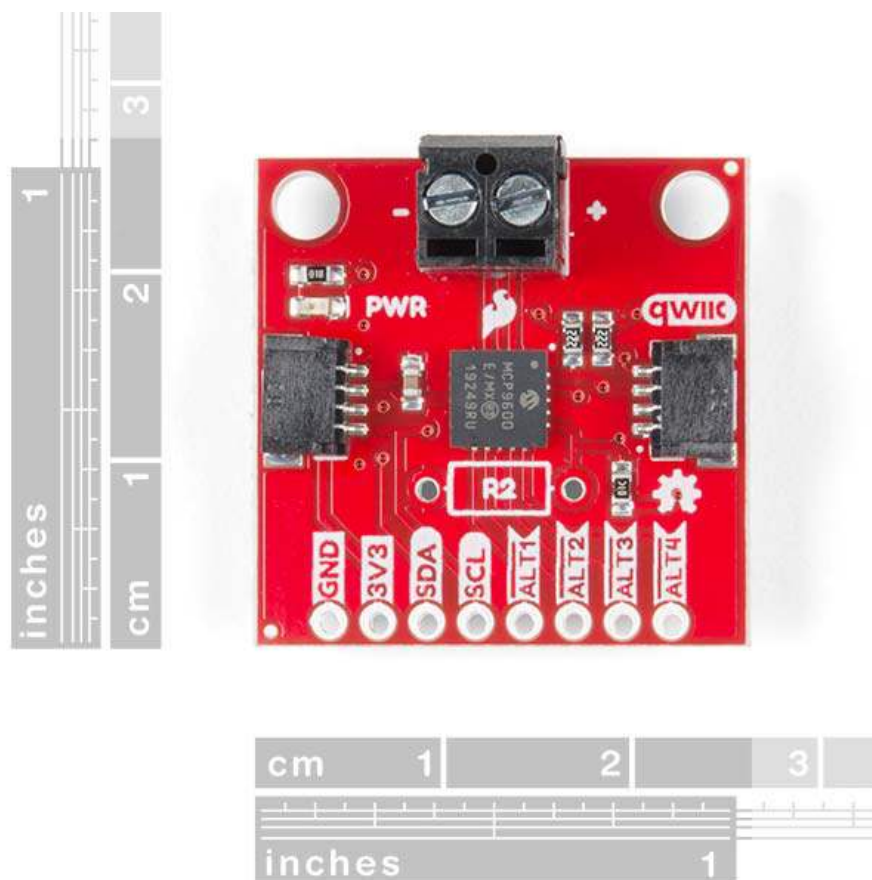
In addition, the MCP9600 has four on-board temperature alerts that you can configure! Instead of constantly polling the sensor over I²C, you can set a temperature limit to trigger an interrupt when the temperature reaches a certain value. This frees up your microcontroller and your I²C bus to do more important things. It's also possible to put the MCP9600 into alternate operation modes in order to save power. The sensor supports a burst mode, where it will take a specified number of samples, return the results, and then go to sleep. This low-power mode makes the MCP9600 perfect for portable applications!

We've written an Arduino library to help you get started quickly. You can download the library through the Arduino library manager by searching 'SparkFun MCP9600' or you can get the GitHub repo as a .zip file and install the library from there.

The SparkFun Qwiic Connect System is an ecosystem of I²C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can't hook it up wrong.

FEATURES

- Temperature Range of -200°C to 1350°C
- Four Onboard Temperature Alerts
- Resolution of 0.0625°C
- Screw Terminal Connector
- ADDR Jumper for variable I²C Addresses (**default address of 0x60**)
- 2x Qwiic Connectors



<https://www.sparkfun.com/products/16295/3-18-20>