MCP9600 Thermocouple Amplifier Breakout PIM437

This top-of-the-range MCP9600 thermocouple amplifier breakout works with eight different thermocouple types, has built-in temperature alerts, is compatible with Raspberry Pi, Arduino, and with our no-solder Breakout Garden HAT.

Thermocouples are temperature probes that are ideally suited for more industrial use where durability and tolerance of extreme conditions is required, like ovens or freezers. The stainless steel K-type thermocouples can withstand and measure temperatures from -200°C to over 800°C (in our testing) when used with the MCP9600.

The MCP9600 works with K, J, T, N, S, E, B, and R-type thermocouples, has built-in cold-junction compensation, four configurable temperature alerts, and sturdy screw terminals to connect your thermocouple.

It's also compatible with our fancy Breakout Garden, where using breakouts is as easy just popping it into one of the six slots and starting to grow your project, create, and code.

Note that you'll also need to grab a thermocouple to go with this breakout, if you don't already have one, like our stainless steel K-type thermocouple or braided K-type thermocouple.

Features

- MCP9600 thermocouple amplifier
- Compatible with K, J, T, N, S, E, B, and R-type thermocouples
- Four configurable temperature alerts
- Hot/cold-junction resolution: 0.0625°C
- Hot-junction accuracy: ±1.5°C
- 3.3V or 5V compatible
- I2C interface, with address select via ADDR cuttable trace (0x38 or 0x39)
- Reverse polarity protection
- Compatible with Arduino
- Raspberry Pi-compatible pinout (pins 1, 3, 5, 7, 9)
- Compatible with Raspberry Pi 3B+, 3, 2, B+, A+, Zero, and Zero W
- Python library https://github.com/pimoroni/mcp9600-python
- Datasheet http://ww1.microchip.com/downloads/en/DeviceDoc/MCP9600-Family-Data-Sheet-20005426E.pdf

Kit includes

- MCP9600 thermocouple amplifier breakout
- 1x5 male header
- 1x5 female right angle header

Software

We've put together a Python library that you can use to read data from your MCP9600 Thermocouple Amplifier Breakout, and an easy one-line installer to install everything.

Our software does not support Raspbian Wheezy.

Notes

The screw terminals are marked + and - but it won't damage your thermocouple or the breakout itself if you connect your thermocouple's wires up the wrong way round. Some

thermocouples will have coloured wires (red (+) and blue/black (-)) but some won't. You'll quickly be able to tell if it's connected the wrong way round because the temperature will move in reverse! Just flip the wires round and you'll be in business!