Zio Qwiic Current & Voltage Sensor INA219

SKU: 101931

Description:

A current and power monitor on a handy breakout board! This little board features an INA219, allowing you to read DC current and power over I2C with a high accuracy, up to 1%!

And with the use of the Qwiic connector, you can easily link multiple devices such as our Zio OLED Display, and many more!

A small and versatile board, it can be used for measuring the power consumption of your projects, estimating battery life, measuring battery levels, and power management systems.

The INA219 is capable of measuring voltages of up to +26VDC, and a maximum current of 3.2A, by using a 0.1 ohm shunt resistor (Labelled R100). The current is calculated by dividing the voltage drop across the shunt, by its resistance; with the voltage and current known, the power can be calculated.

The maximum voltage drop the INA219 can measure is ±320mV, so the maximum amperage is 3.2A. However, more experienced users could replace this shunt resistor, and change the INA219's gain settings to achieve higher currents and accuracy.

The INA219 supports the I2C interface making it easier to connect multiple devices, and with the use of the Qwiic Connector it couldn't be faster. Useful, as we can retrieve the measurements for voltage, current and power all at the same time!

Measuring any load simply involves connecting the positive terminal of your power source to the VIN+ pin of the green terminal block, and connecting the positive supply of the load to the VIN- pin. Connect the ground lead of the load to the ground of the power supply. There, we have a closed circuit with current flowing to take the measurements.

We've also provided a 2.54mm (0.1in) pin-out so you can attach the sensor to a breadboard if you need to, and make useful test-points if required.

To find out more about how to use this device and get up and running, check out our Tutorial.

Specification

- Operation Voltage: 3-5V (3.3V Recommended)
- Bus Voltage: 0- 26V
- Interface: I2C
- IC: INA219
- I2C Address: 0x40, 0x41, 0x44, 0x45, (Default 0x40)
- Dimensions: 25.4 x 25.4mm
- Weight: 3.0g
- Without Reconfiguration:
    - Max Current: 3.2A
    - Resolution: up to 12 Bit
    - Accuracy: 1%

Links:

- [Eagle File and Schematic](#)
- [Library link](#)
- [INA219 Datasheet](#)

More Product Picture: