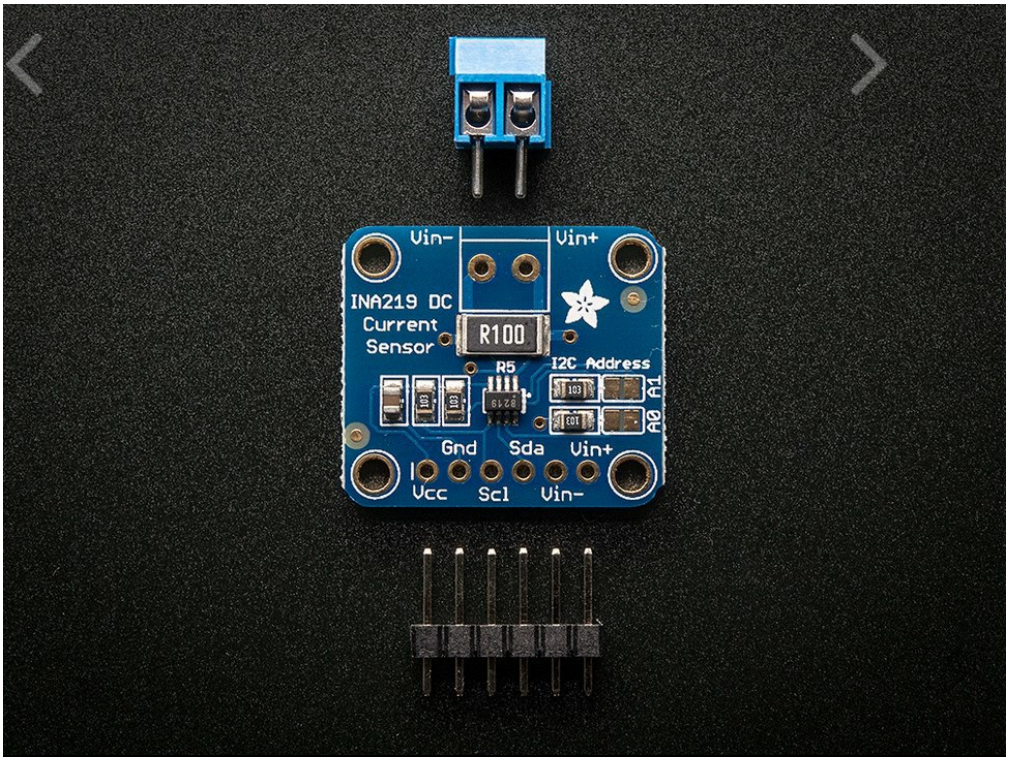

INA219 High Side DC Current Sensor Breakout - 26V ±3.2A Max

PRODUCT ID: 904

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DESCRIPTION

This breakout board will solve all your power-monitoring problems. Instead of struggling with two multimeters, you can just use the handy INA219B chip on this breakout to both measure both the high side voltage and DC current draw over I2C with 1% precision.

Most current-measuring devices such as our current panel meter are only good for *low side* measuring. That means that unless you want to get a battery involved, you have to stick the measurement resistor between the target ground and true ground. This can cause problems with circuits since electronics tend to not like it when the ground references change and move with varying current draw. This chip is much smarter - it can handle high side current measuring, up to +26VDC, even though it is powered with 3 or 5V. It will also report back that high side voltage, which is great for tracking battery life or solar panels.

A precision amplifier measures the voltage across the 0.1 ohm, 1% sense resistor. Since the amplifier maximum input difference is ±320mV this means it can measure up to ±3.2 Amps. With the internal 12 bit ADC, the resolution at ±3.2A range is 0.8mA. With the internal gain set at the minimum of div8, the max current is ±400mA and the resolution is 0.1mA. Advanced hackers can remove the 0.1 ohm current sense resistor and replace it with their own to change the range (say a 0.01 ohm to measure up 32 Amps with a resolution of 8mA)

We include a 6-pin header (so you can easily attach this sensor to a breadboard) as well as a 3.5mm terminal plug so you can easily attach and detach your load. Usage is simple. Power the [illegible] with 3 or 5VDC and connect the two I2C pins up to your microcontroller. Then

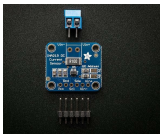
connect your target power supply to VIN+ and the load to ground to VIN-. We have a detailed tutorial that will do all the gain, range and math for you - just plug and go with Arduino or CircuitPython!

TECHNICAL DETAILS

- Datasheet, Fritzing, and EagleCAD PCB files available in the product tutorial
- 0.1 ohm 1% 2W current sense resistor
- Up to +26V target voltage
- Up to ±3.2A current measurement, with ±0.8mA resolution
- 0.9" x 0.8" PCB
- PCB (no header or terminal block): 1.9g
- **Note:** The terminal block included with your product may be blue or black.
- This board/chip uses I2C 7-bit addresses 0x40, 0x41, 0x44, 0x45, selectable with jumpers

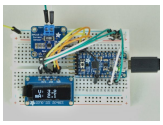
RoHS

LEARN

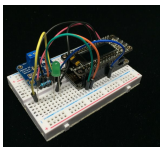


Adafruit INA219 Current Sensor Breakout
Measure high side voltage and DC current draw over I2C

Low Power WiFi Datalogger
Log sensor data with an Arduino and CC3000 for days on batteries!



Pro Trinket Power Meter
Build a small meter to display voltage, current, and power usage.

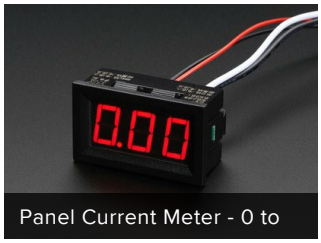


Build a Cloud-Connected ESP8266 Power Meter
Measure the DC power consumption of your devices!

I2C addresses!
I2C addresses from 0x00 to 0x7F (inclusive)

MAY WE ALSO SUGGEST...

Extech EX330 12-function



Panel Current Meter - 0 to

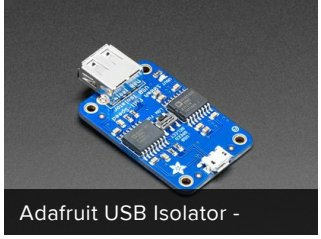
Pocket Autoranging Digital

ADS1015 12-Bit ADC - 4

Mini Power Meter with

INA169 Analog DC Current


Adafruit INA219


Adafruit USB Isolator -


TCA9548A I2C Multiplexer

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"Failure is only the opportunity to begin again more intelligently" - Henry Ford