What it takes to make your own Power meter and Logger!

- Arduino (Mine is the UNO R3)
- 12v DC Power Connector
- Ethernet Shield w/ SD Card Reader
- INA 219 Current Sensor
- 16 x 2 LCD Screen
- MicroSD card
- Device to measure across the INA 219.
- Resistors and Wires

Arduino Based Power Meter and Logger

Aaron Keeton
Core 1: Reading

Core Phase 1 Sets up the INA 219 and the LCD Display

1. Connect the LCD Display and the INA 219 to the Arduino
2. Make sure the SDA and SCL pins are properly connected (in the Uno R3 these pins are separate, in other models they are shared with Analog 4 and 5).
3. Write the Code
4. Upload to the Arduino.
5. Plug in Load (LED for our scenario)
6. Start the Arduino

Core 2: SD Card Functionality

Core Phase 2 takes the Ethernet Shield and uses its SD Card reader to write the data to be used for later use.

1. Connect the Ethernet Shield to the Arduino
2. Reconnect all the previous wiring (be mindful of the SDA and SCL pins)
3. Update the code to allow SD card functionality (uses Digital Pin 4 on the Arduino)
4. Upload and insert an SD card and get started!

Future Expansion

This Power Meter is very much in a prototype phase as is. As such, there are plenty of potential upgrades that can be done to make it work even better or look more appealing.

- Consider using the Arduino Pro Mini!
- Add in Ethernet Support
- Make your own enclosure to make it look better!