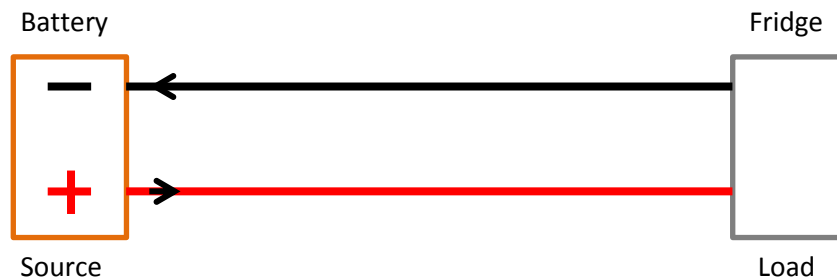


Fitting a Volt/Amm meter to your battery system

Let's first look at the most basic diagram : a battery and a fridge

Then let's work with a current flow direction from Positive to Negative.

We can now sketch the diagram as follows:



This write up is based on the V/A meter that is distributed by 4x4Direct.



The VOLT meter is a simple connection : RED to the battery (source) positive, BLACK to the negative line.

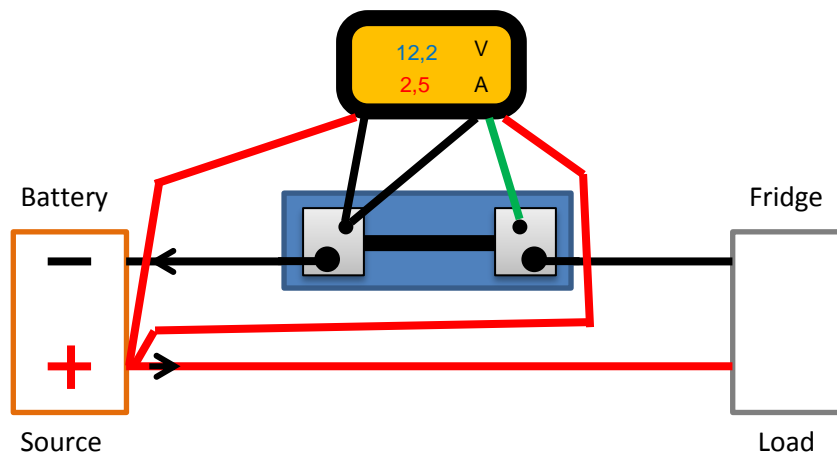
The AMPERE meter has three connections:

- RED to the battery (source) positive,
- BLACK to the negative line – on the SOURCE side of the shunt
- GREEN/YELLOW to the negative line – on the LOAD side of the shunt

NOTE – if the black and green are connected on the wrong side of the shunt the amm-meter will show a ZERO value.

Also note the RED wires of the Volt and Amm meters are connected to the same point, just as the BLACK wires of both meters are connected to the same point.

This meter uses a “shunt” that is fitted in the negative line, near the battery as follows:



Please note the following:

- Both the Volt and Amm meter red wires are connected to the battery
- Both the Volt and Amm meter black wires are connected to the “battery side” of the shunt, on the SMALL screw.
- The green/yellow wires are connected to the “load side” of the shunt
- The negative wires are connected to the LARGE screws.

When using multiple meters to measure various circuits the crucial part is to keep track of the “source” and the “load” for each part of the circuit. In the previous diagram the battery is the source and the fridge is the load. Now think of a charger that supplies current to a battery – then the Ctek/Hcdp is the source and the battery is the load THIS determines the positioning of the black and green/yellow wires on the shunt.

Ideally one would plan this into a new system. However it is easy enough to add these meters to an existing system. I used 100A fuse holders to tie into the existing system :



I also added small push button switches to each circuit to switch off each meter.

Using THREE meters to monitor your complete installation :

