De spanningsmeting gaan we doen met een INA219B, ik heb hier werkende code voor gevonden, ik heb er ook voor gezorgd dat er in deze code de capaciteit van een batterij berekent. Dit wordt gedaan met deze formule: Vaccu \* Ah.

Dit is de code:

#include <Wire.h>

#include <Adafruit\_INA219.h>

Adafruit\_INA219 ina219;

void setup(void)

{

**Serial**.begin(115200);

 while (!**Serial**) {

     // will pause Zero, Leonardo, etc until serial console opens

     delay(1);

 }

**Serial**.println("Hello!");

 // Initialize the INA219.

 // By default the initialization will use the largest range (32V, 2A).  However

 // you can call a setCalibration function to change this range (see comments).

 if (! ina219.begin()) {

**Serial**.println("Failed to find INA219 chip");

   while (1) { delay(10); }

 }

 // To use a slightly lower 32V, 1A range (higher precision on amps):

 //ina219.setCalibration\_32V\_1A();

 // Or to use a lower 16V, 400mA range (higher precision on volts and amps):

 //ina219.setCalibration\_16V\_400mA();

**Serial**.println("Measuring voltage and current with INA219 ...");

}

void loop(void)

{

 float shuntvoltage = 0;

 float busvoltage = 0;

 float current\_mA = 0;

 float loadvoltage = 0;

 float power\_mW = 0;

 float capacity = 0;

 float batAh = 0.20;

 shuntvoltage = ina219.getShuntVoltage\_mV();

 busvoltage = ina219.getBusVoltage\_V();

 current\_mA = ina219.getCurrent\_mA();

 power\_mW = ina219.getPower\_mW();

 loadvoltage = busvoltage + (shuntvoltage / 1000);

**Serial**.print("Bus Voltage:   "); **Serial**.print(busvoltage); **Serial**.println(" V");

**Serial**.print("Shunt Voltage: "); **Serial**.print(shuntvoltage); **Serial**.println(" mV");

**Serial**.print("Load Voltage:  "); **Serial**.print(loadvoltage); **Serial**.println(" V");

**Serial**.print("Current:       "); **Serial**.print(current\_mA); **Serial**.println(" mA");

**Serial**.print("Power:         "); **Serial**.print(power\_mW); **Serial**.println(" mW");

**Serial**.println("");

 capacity = busvoltage \* batAh;

**Serial**.print("Capacity:         "); **Serial**.print(capacity); **Serial**.println(" Wh");

**Serial**.println("");

 delay(2000);

}