

```
#include <Wire.h>
#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>

#define SCREEN_WIDTH 128
#define SCREEN_HEIGHT 64
#define OLED_RESET -1

Adafruit_SSD1306 display(SCREEN_WIDTH, SCREEN_HEIGHT, &Wire, OLED_RESET);

int supercapPin = A0; // Voltage from supercapacitor

void setup() {
    Serial.begin(9600);

    // OLED Init
    if (!display.begin(SSD1306_SWITCHCAPVCC, 0x3C)) {
        Serial.println("OLED not found!");
        while (1);
    }

    display.clearDisplay();
    display.setTextSize(1);
    display.setTextColor(WHITE);
}

void loop() {
    int raw = analogRead(supercapPin);
```

```
// Convert ADC reading to voltage  
float voltage = (raw / 1023.0) * 5.0;
```

```
// Percent (max 2.7V)  
float percent = (voltage / 2.7) * 100;  
if (percent > 100) percent = 100;
```

```
// Display on OLED  
display.clearDisplay();  
display.setCursor(0, 10);  
display.print("Supercap: ");  
display.print(voltage, 2);  
display.println(" V");
```

```
display.setCursor(0, 30);  
display.print("Energy: ");  
display.print(percent, 0);  
display.println(" %");
```

```
display.display();
```

```
delay(500);
```

```
}
```