DAC Breakout Board Guide (V1.0)

Ecoharmony.co.uk

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1. Introduction

This guide lays out the steps to install and use the Ecoharmony DAC Breakout Board library with the Arduino IDE Software.

The DAC Breakout Board runs on a SPI bus and can be controlled by any Arduino SPI master. The DAC Breakout Board can currently be used to control the following Ecoharmony products:

- EPC Super Lite
- EPC 2.0 Lite
- EPC 2.0 Basic
- EPC 2.0 Plus
- Classic 2.0
- SimplEV

On these products, the breakout board can be used to set the charging current limit and to disable charging.

2. Downloading the library

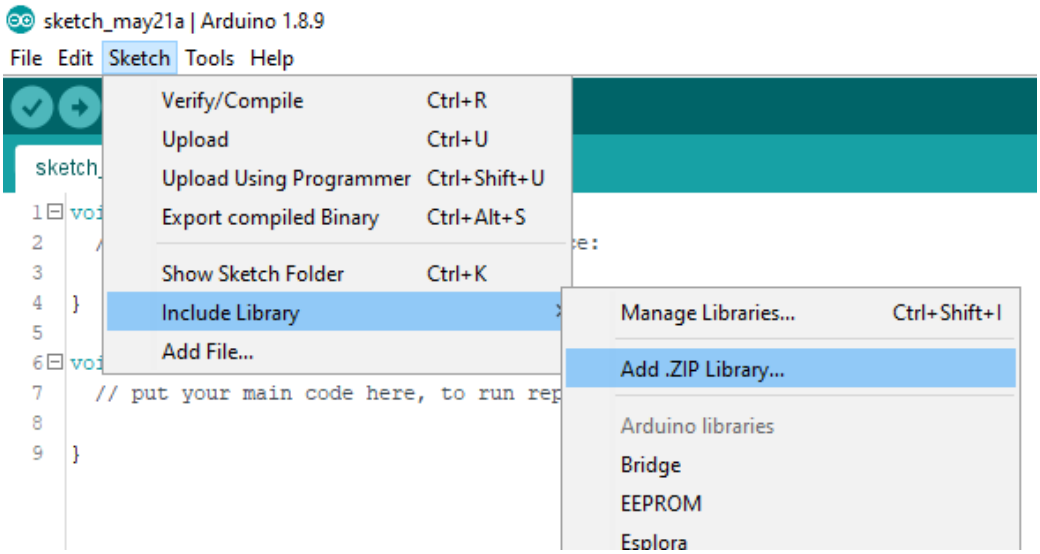
To download the library files, use the following link to our website:

Ecoharmony.co.uk

3. Installing the library

Open Arduino IDE. Click the ‘Sketch’ tab from the top menu bar.

Click on the ‘Include Library’, and click on ‘Add ZIP Library’.



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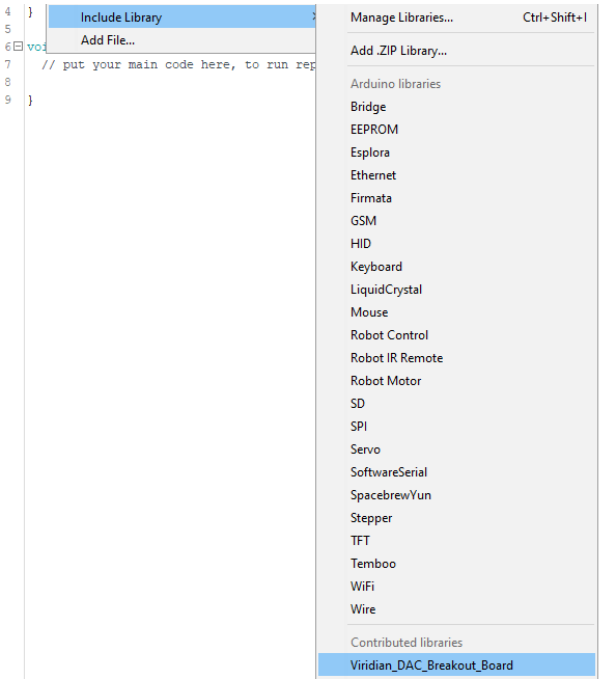
Navigate to the location of the downloaded .ZIP file and select it. After this it should now appear in the ‘Include Library’ tab.



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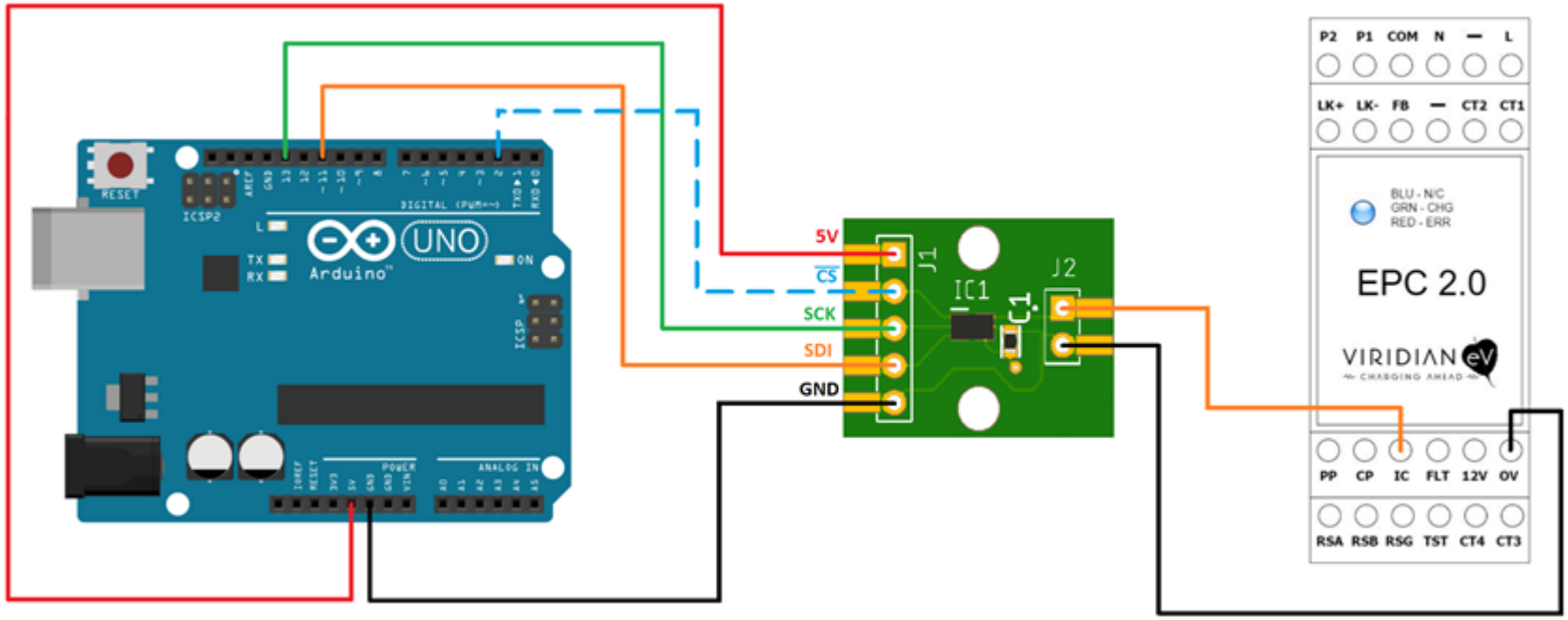
4. Setting up the hardware

Below is a diargram showing an example connection for an Arduino Uno and an EPC 2.0.



Note: The **cs** pin can be connected to any unused GPIO pin.

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charging ahead

5. Using the library

In you sketch, the following line can be added to define the DAC breakout board as a charge point controller:

```
DAC_Breakout_Board chargepoint(DAC_ENABLE_PIN);
```

This function is used to declare the class. DAC_ENABLE_PIN can be defined as any unused GPIO pin that is connected to the breakout board.

The following command should be used after the SPI.begin() command to enable to DAC breakout board.

```
chargepoint.setupDAC();
```

Now that the DAC breakout board is set up, the below commands can be used to control the current limits of the connected chargepoint.

The .setCurrent function uses an unsigned integer value between 0 and 80 to control the current limit.

```
chargepoint.setCurrent(6);
```

The .disable function pulls the IC to 0V and stops any charging.

```
chargepoint.disable();
```