tobiasweidhofer

Programming the Atmega 328p

This guide will show how to connect and program the Atmega328p on the PCB.

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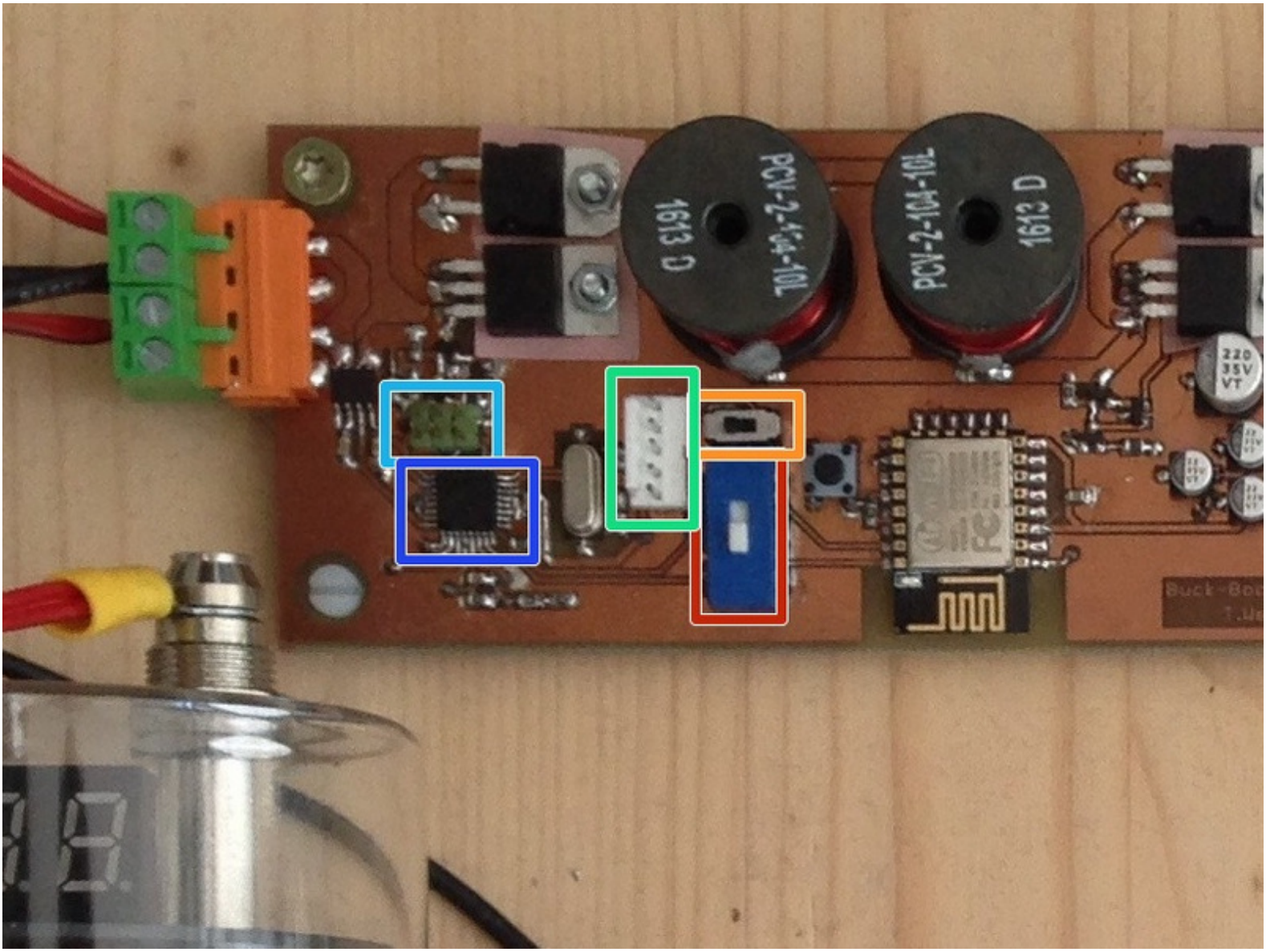


PARTS:

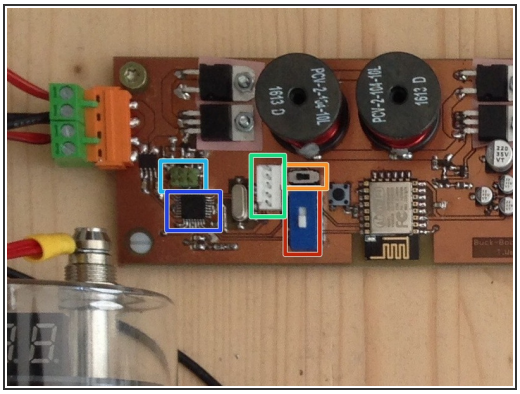
- FTDI-cable (1)

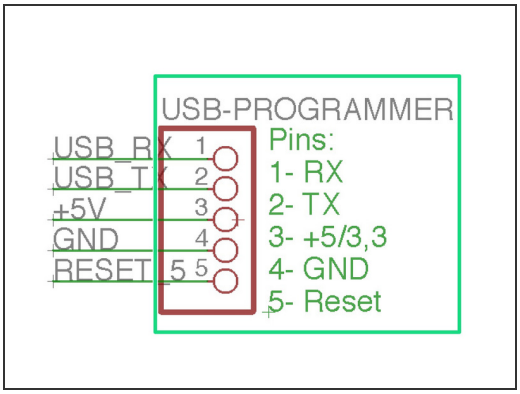
with specific wiring

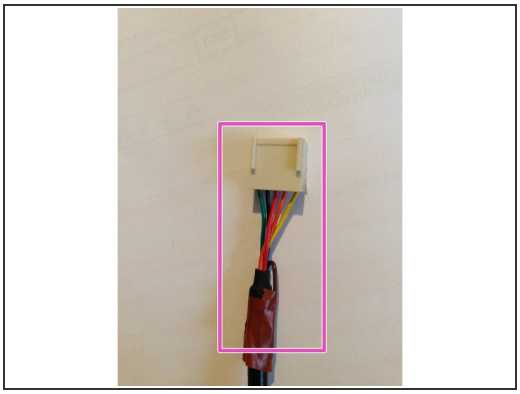
- Laptop (1)
- IDE (1)

Arduino in this case

Step 1 — Setting the switches correctly





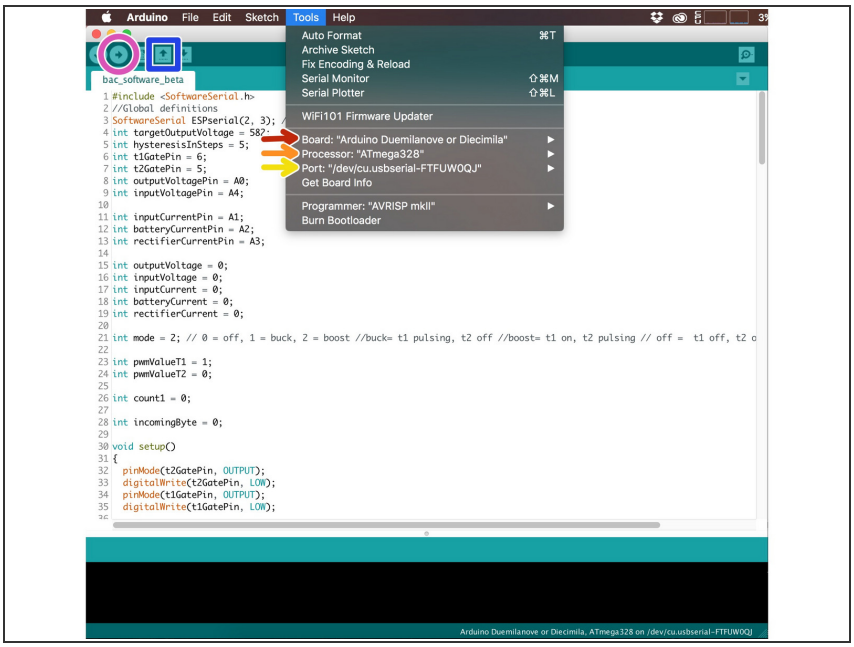


- This switch must be set to the **UP** position for programming and **DOWN** for communication between the Atmega 328p and ESP8266.
- This switch must be set to the **LEFT** to program the Atmega 328p and to the **RIGHT** to program the ESP8266.
- The connector for programming using the FTDI cable (UART). The necessary connections can be seen in the second picture.
- The final FTDI cable should look like this.
- The SPI connector that is only connected to the Atmega328p. This is necessary to flash the 328p the first time to enable the external crystal.

ⓘ The SPI connector can also be used to program the 328p continuously but requires the option "Upload using programmer" and the use of an external programmer.

- The Atmega328p chip

Step 2 — Programming the Atmega328p



- After connecting the FTDI cable to the laptop and the PCB open the Arduino IDE.
- Open the supplied code or write an own code.
- Make sure the options are set correctly:
  - The board must be set to Duemilanove.
  - The processor must be set to ATmega328p.
  - This will differ depending on what usb port the FTDI cable is connected to, so this should be set to anything available except the bluetooth option.
- When ready to compile and upload press the **UPLOAD** button and the programm will compile and upload.

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