

# Falcon BMS to Arduino Interface Tool (BMSAIT)

Example program for simulating the  
FuelFlow Indicator on an OLED display



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## 1. Overview

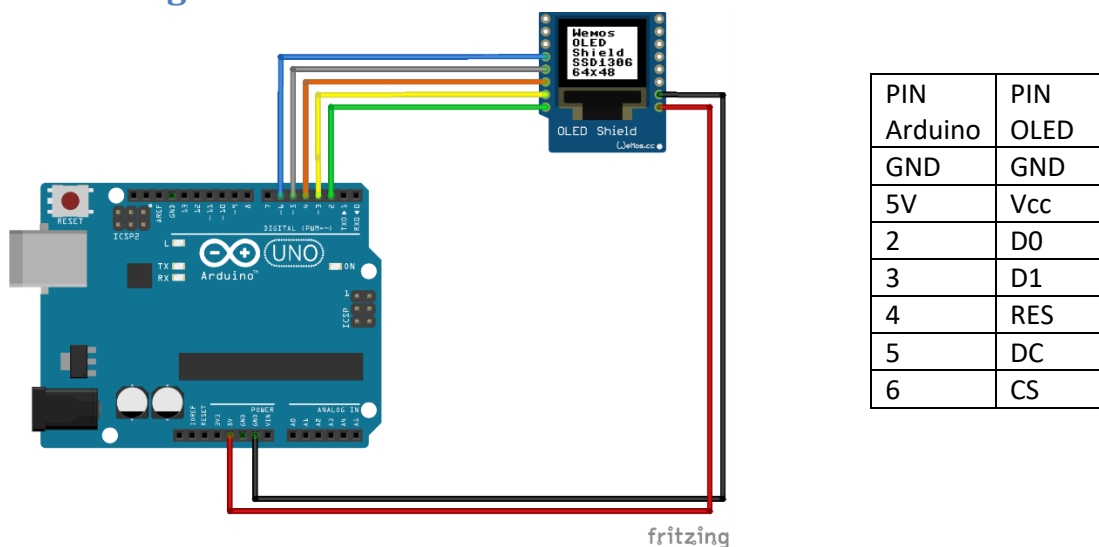
This example program demonstrates the image of the FuelFlow Indicator on a monochrome OLED display.

To try out the example you need:

- An Arduino board (e.g. a UNO)
- An OLED display (in this example: SSD1306 128x64, size 0.96" with SPI connection).
- Connecting cable

The FuelFlow module can also display animated numbers and a "frame" by displaying the title "FuelFlow". These features are automatically activated when a powerful Arduino board (Mega or Due) is used. For small boards (Uno, Nano), the option is disabled.

## 2. Cabling



Note that the wiring of the OLED display depends on which form of communication the OLED is set to. You can influence this by setting/removing contacts on the back of the OLED.

## 3. Programming the Arduino

If the Arduino IDE is not yet installed, please refer to chapter 4.1.4 of the BMSAIT documentation.

Now call up the .ino from the \Arduino Sketch\BMSAIT\_SBI\ folder with a double-click. The sketch is loaded in the Arduino IDE. If you have done the wiring according to Chapter 2, no adjustments are required here.

With OLEDs, it is important to choose the right "structure" for controlling the OLED. I have described the procedure in the documentation of BMSAIT.

After the constructor has been checked in the sketch and you have selected the correct Arduino board, upload the sketch to the Arduino.

#### 4. Setting up the Windows program

Install and start BMSAIT and make sure that the basic settings have been made correctly. It is particularly important that the reference to the variable definition (BMAIT-Variablen.csv) is made. Select the PUSH principle and turn off the autostart.

Then load the enclosed configuration (BMSAIT\_demoSBI.ini). BMSAIT should now display the loaded definition (one COM port and several variables).

Right-click on the COM port and edit it. Select the COM port to which your Arduino is connected. If you are not sure which COM port this is, then either select the SCAN function and see on which COM port the Arduino sends a response or you can look in the Windows Device Manager.

I recommend saving the changes now ("Save as" and selecting a new file).

Activate the test mode and launch the connection to the Arduinos. If everything has worked out, a zero value should appear on the display.

#### 5. Result

Disable the test mode and launch Falcon BMS in and instant action mission. Move the throttle to achieve a change in the fuel flow. The display should show the respective fuel flow.

Note: As long as there is no connection to BMSAIT, the Arduino will put the OLED to sleep. A connection must therefore be established for the test.