

## :MOVE Line Following Board

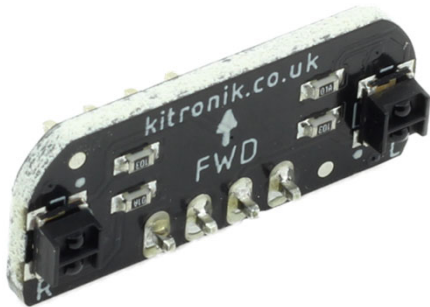
### TECHNOLOGY DATA SHEET & SPECIFICATIONS

The Kitronik :MOVE Line Following sensor board adds line following sensors to a project. The 2 LED / phototransistor sensors output an analog voltage that can be read into a microprocessor's ADC channel.

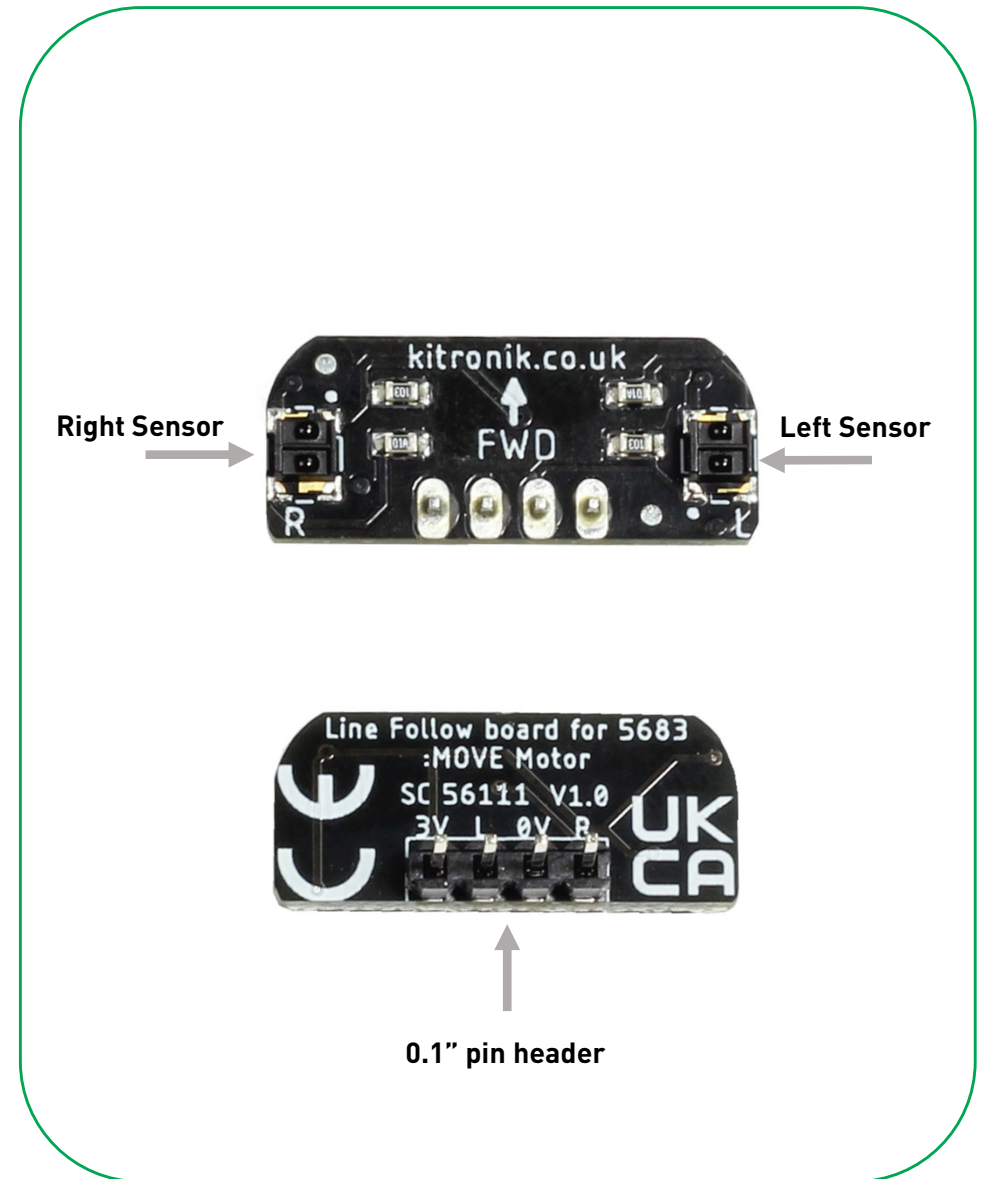
**Connections:** The 4 pin connections are on a standard 0.1" (2.54mm) pitch. The pins provide connections for power (3V and 0V) and 2 sensor outputs, marked L and R for the left and right sensors respectively.

**Power Supply:** The board requires 3V-5V supply (typically 3.3V) and a ground connection onto the pin header. These pins are marked on the board as 3V and 0V.

**Sensor output:** The sensor output voltage changes from the supply voltage to 0V as the sensors pass over light and dark surfaces. Different surfaces will reflect different amounts. A typical light surface will give a value of 0.5V for example. A typical dark surface will give a value of 2.5V (assuming a 3V VCC). The value in a program will depend on the processors ADC range and width.



Surface	Response
Light	Low Voltage ~ 0V
Dark	High Voltage ~ 3V



## Electrical Information

Typical Operating Voltage (Vcc Typ)	3V
Max Operating Voltage (Vcc Max)	5V
Typical Current draw at 3V / 5V	40mA / 80 mA
Sensor voltage output range	0V (light surface) - Vcc (dark surface)
Breakout pins	3V – Vcc L – Left sensor 0V – Ground R – Right sensor

## Example MakeCode Code

A MakeCode online tutorial is available to show how the sensor can be used to enable line following (specifically with the :MOVE Motor, but the principles can be transferred to another buggy):

<https://makecode.microbit.org/#tutorial:https://github.com/KitronikLtd/pxt-kitronik-move-motor/LineFollowing>

This example is in MakeCode for the BBC micro:bit.  
The board can also be used with an Arduino or Raspberry Pi Pico.

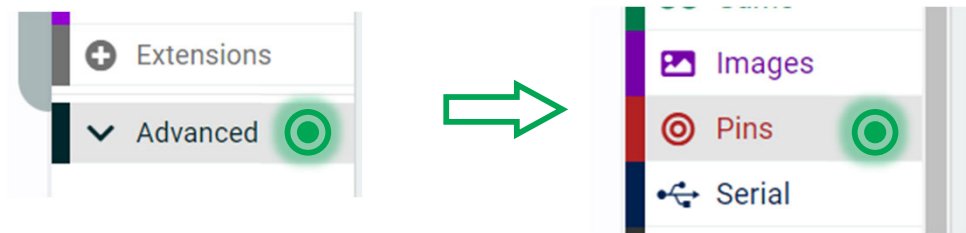
In the example, the sensors are connected to micro:bit analog input pins 1 and 2 (the same as on the :MOVE Motor).

The 'analog read' blocks can be found by clicking on the advanced drop-down and then looking in the 'Pins' category.

The forever loop constantly takes a reading from each sensor and displays the value on the micro:bit LED screen.

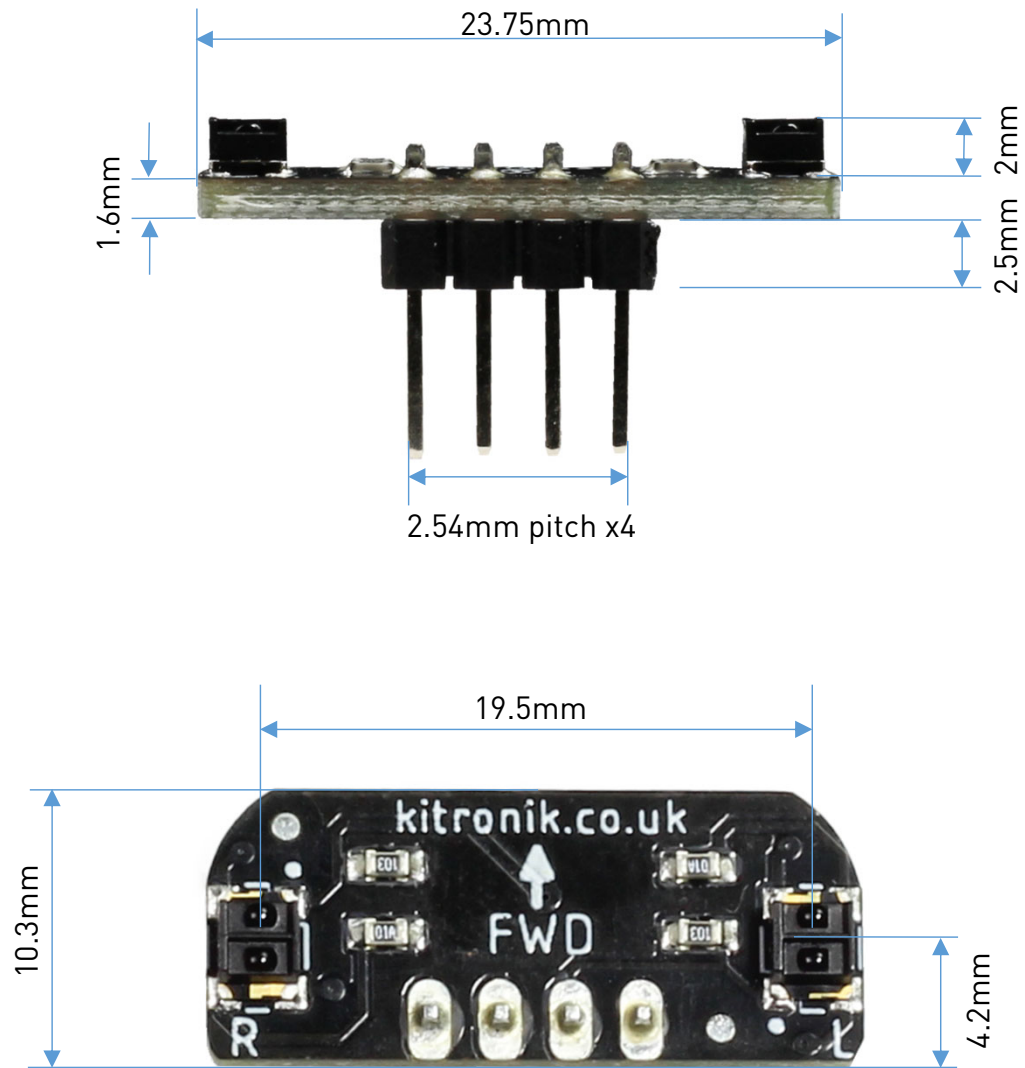
For more information on this product visit:

[www.kitronik.co.uk/56111](http://www.kitronik.co.uk/56111)



```
forever
  show string "L"
  show number analog read pin P2
  pause (ms) 1000
  show string "R"
  show number analog read pin P1
  pause (ms) 1000
```

## Dimensions



(Dimensions +/- 0.8mm)