# :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.

Right Sensor

Left Sensor

0.1" pin header
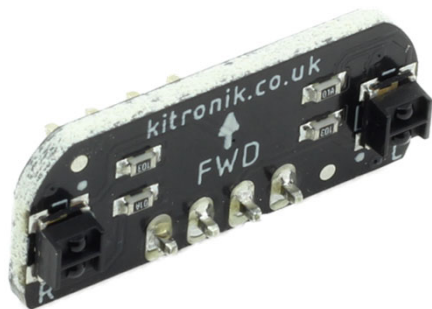
Surface	Response
Light	Low Voltage ~ 0V
Dark	High Voltage ~ 3V
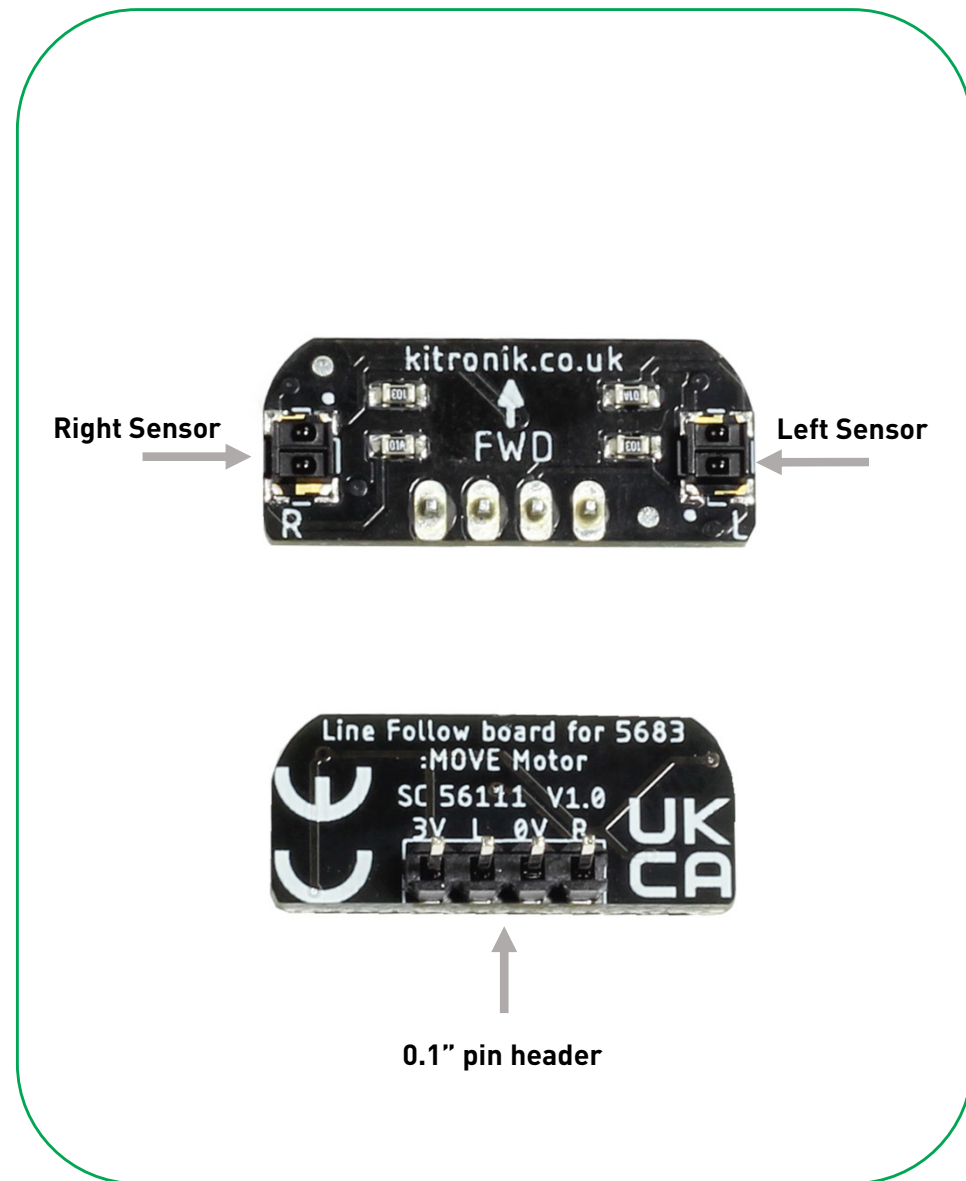
Electrical Information

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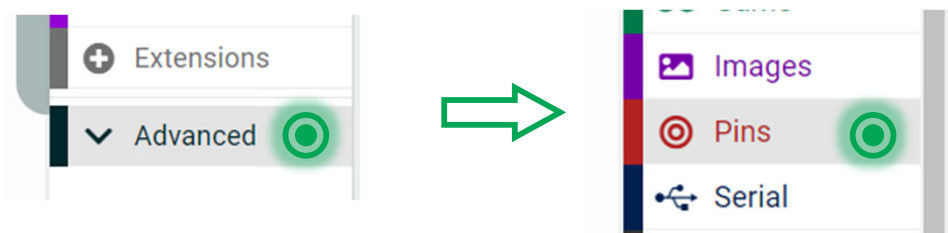
https://makecode.microbit.org/#tutorial:https://github.com/KitronikLtd/pxt-kitronik-move-motor/LineFollowing

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

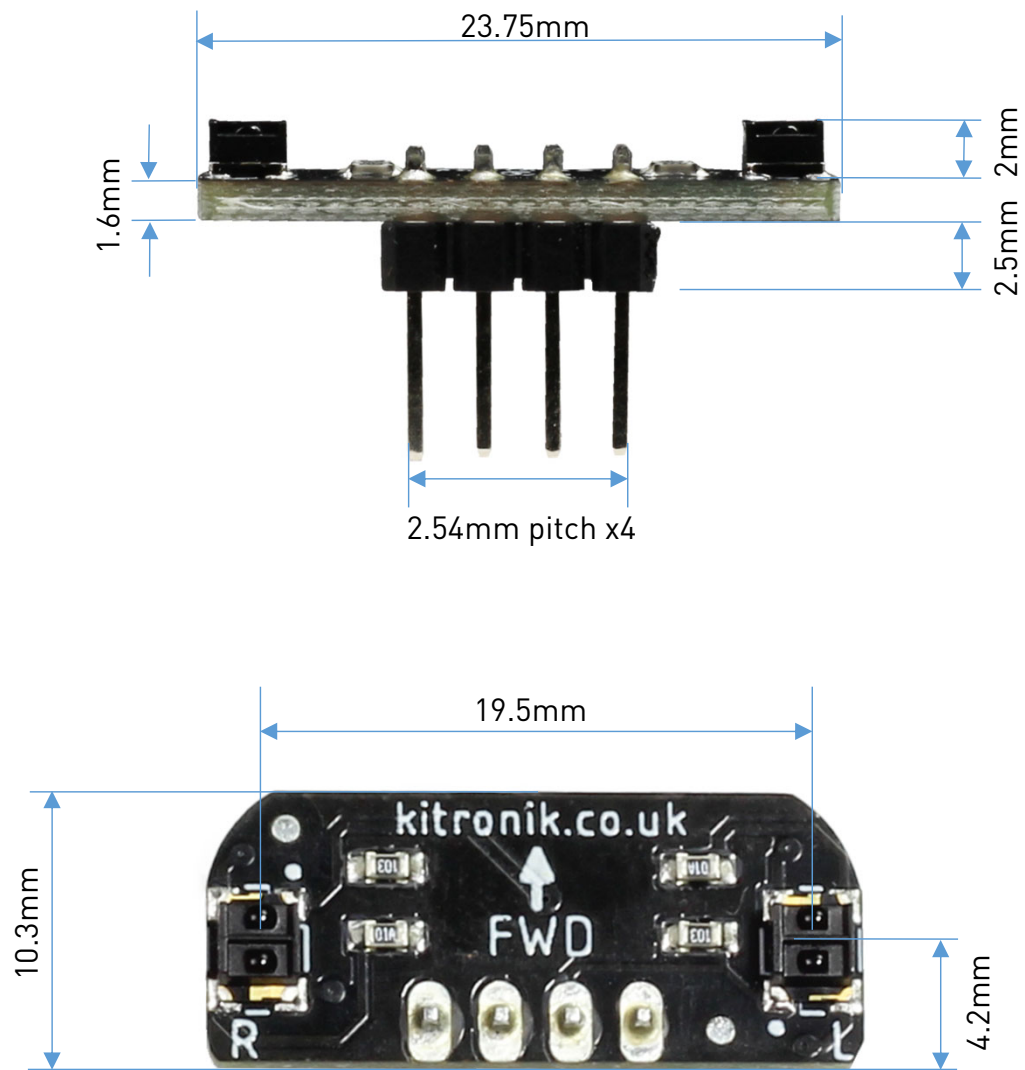In the example, the sensors are connected to micro:bit analog input pins 1 and 2 (the same as on the :MOVE Motor).

The 'analog read' blocks can be find 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.

Dimensions

23.75mm

2mm

1.6mm

2.5mm

2.54mm pitch x4

19.5mm

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FWD

R

L

10.3mm

4.2mm

(Dimensions +/- 0.8mm)