

# Line Following Board for the BBC micro:bit

[www.kitronik.co.uk/5629](http://www.kitronik.co.uk/5629)



The Line following board (primary use with :MOVE Mini) for the BBC micro:bit allows a robot/buggy to detect a track and move along.

Five connections are required for full operation. The connections can be seen in the Electrical Section of the datasheet.

The left and right detector outputs from the board will activate high when darkness is seen. At the same time the LED will illuminate when darkness is sensed.

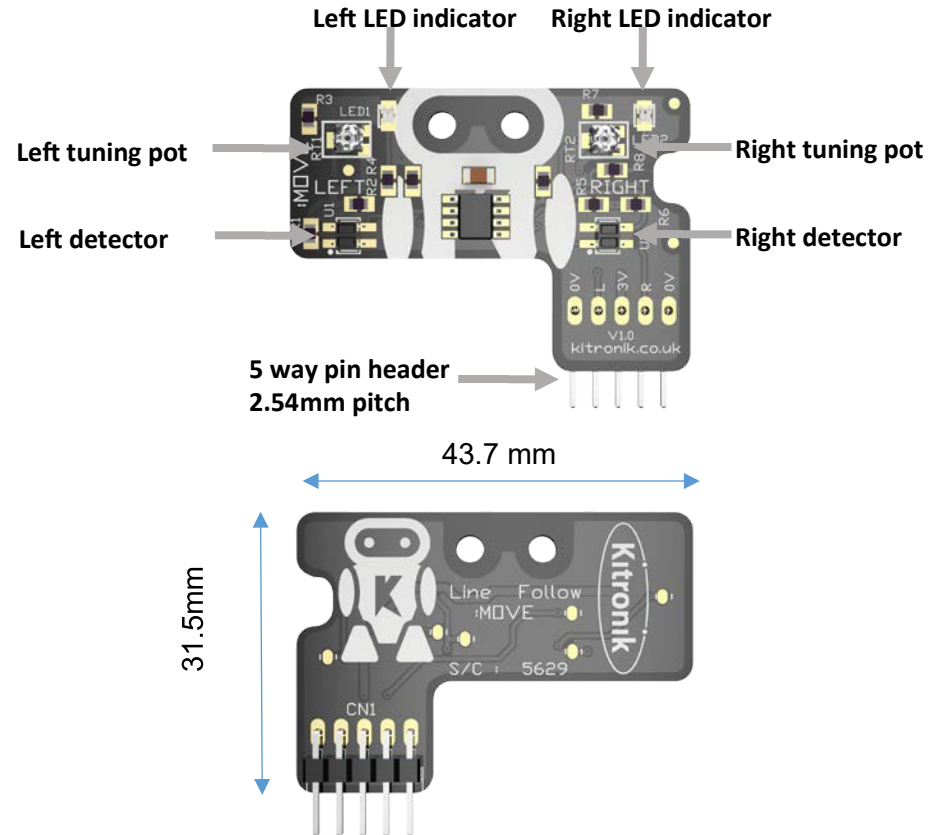


## Ideal setup:

The board to be mounted with 5mm clearance between the detector and the surface sat on.

**Examples of board in use:** This breakout board is used in our :MOVE mini robot. For more details see: [www.kitronik.co.uk/5629](http://www.kitronik.co.uk/5629)

## Layout and Dimensions:



The Line follower board is 5.7mm front to back

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## Electrical Information

Operating Voltage (Vcc)	3V
Number of output channels	2
Pinout of connector	0V / Left Detector / 3V / Right Detector / 0V
Max Current	<1mA

## Tuning Guide

To improve the line following or to tune to the required surface/line please follow the following guide.

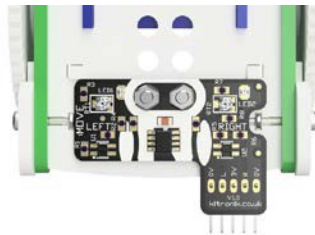
First note whether the indicator LED's on the board are normally on (light surface & dark line) or normally off (dark surface & light line). These indicator LED's can be seen from the back of the Move:mini.

While holding onto the buggy over the line and slowly move across. When the detector gets close to the line it will switch to the opposite state.

If it does not change, then the pots will require tuning. Turn the buggy over to view the bottom of the board (as seen in picture).

To detect darker, turn the pot clockwise.

To detect lighter, turn the pot anti-clockwise.



## Example Code

The code below is a working code for the MOVE:mini using Kitronik blocks for a dark line on a light surface (e.g. Black line on white paper).

```
forever
  set Right_Detector to digital read pin P15
  set Left_Detector to digital read pin P16
  if (Left_Detector = 0 and Right_Detector = 0)
  then stop
  else if (Left_Detector = 1 and Right_Detector = 0)
  then turn left
  else if (Left_Detector = 0 and Right_Detector = 1)
  then turn right
  else if (Left_Detector = 1 and Right_Detector = 1)
  then drive forward
```