

Mini Prong : soil moisture sensor for the BBC micro:bit



www.kitronik.co.uk/56107

Introduction: Mini Prong is a sensor board that can be connected to a BBC micro:bit to monitor the moisture present in soil. The two conductive tines are placed into the soil. Any water or moisture in the soil will conduct to give an analogue voltage that can be read by the BBC micro:bit.

Power Supply:

Prong is powered from the 3V supply of the BBC micro:bit.

Voltage signal:

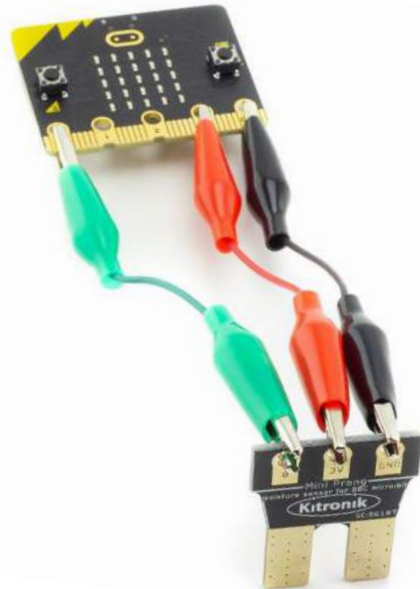
To determine the moisture level, the signal is brought out to Pin 1 on the BBC micro:bit as an analogue voltage. The voltage will range between 0V (dry) and 3V (wet).

Connecting a BBC micro:bit:

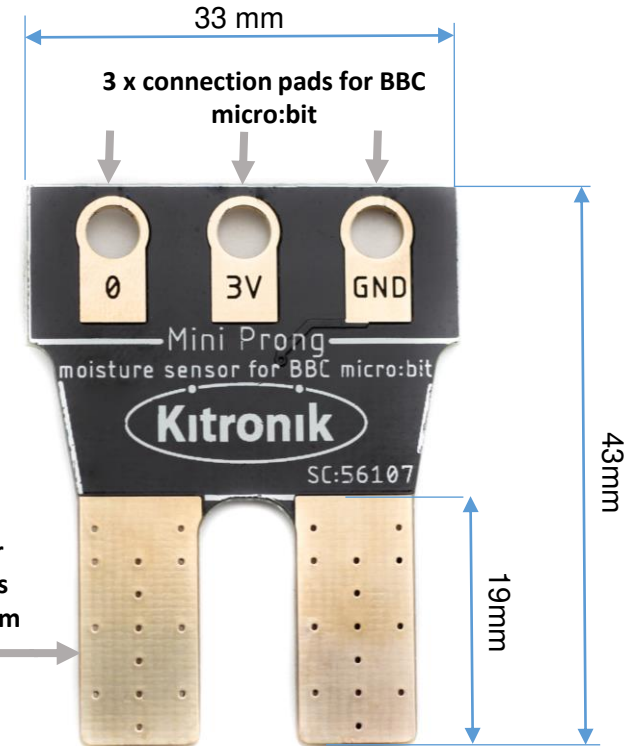
The board has been designed to connect to the BBC micro:bit with crocodile clips, as shown to the right.

Clip to P0, 3V and GND holes of the BBC micro:bit, and the Mini Prong PCB.

The Mini Prong '0' pad can also be connected to P1 or P2 if P0 is already in use.



Layout and Dimensions:



Drill holes spaced for depth measurements (3 hole marker is 5mm, 1 hole marker between is 2.5mm)

The board is 1.6mm thick

Software:

This simple example shows a happy face when the soil is damp, and a sad face when it is dry. The pause is used to space readings out.

```
forever loop
  set moisture to analog read pin P0
  if moisture < 400 then
    show icon [happy face]
  else
    show icon [sad face]
  pause (ms) 5000
```