



Example Program

– JavaScript Blocks Editor

```
on start
  set seconds to 1
  set minutes to 60
  set hours to 3600
  set displaydivisor to seconds
  set onthreshold to 500
  set offthreshold to onthreshold - 50
  set ontime to 0
  set on to false
  set starttime to 0

forever
  set sensor to analog read pin P0
  if not on
  then
    if sensor > onthreshold
    then
      set starttime to running time (ms)
      set on to true
      show leds
    else
      show leds
  else
    set ontime to (running time (ms) - starttime) ÷ displaydivisor
    if sensor < offthreshold
    then
      set on to false
    else
      show leds
  show number ontime

on button A pressed
  set ontime to 0
  set starttime to running time (ms)
```

- Go to www.microbit.org/code and open the **JavaScript Blocks Editor**.
- Drag the file **microbit-energyuse-jsb.hex** onto the work area.
- This program will display the **amount of time** that a sensor attached to **pin 0** is 'high'.
- Test it, download it and **experiment** with how it works!





```
1 from microbit import *
2
3 SECONDS = 1
4 MINUTES = 60
5 HOURS = 3600
6 OFF = Image("00000:00000:00000:00000:99999")
7 ON = Image("99999:00000:00000:00000:00000")
8
9 display_divisor = SECONDS
10 on_threshold = 500
11 off_threshold = on_threshold - 50
12 on_time = 0
13 on = False
14 start_time = 0
15
16 while True:
17     if button_a.was_pressed():
18         on_time = 0
19         start_time = running_time()
20
21     sensor = pin0.read_analog()
22     if not on:
23         if sensor > on_threshold:
24             start_time = running_time()
25             on = True
26         else:
27             display.show(OFF)
28             sleep(400)
29     else: # on
30         on_time = int((running_time() - start_time) / 1000 / display_divisor)
31         if sensor < off_threshold:
32             on = False
33         else:
34             display.show(ON)
35             sleep(400)
36
37     if on_time < 10:
38         display.show(str(on_time))
39     else:
40         display.scroll(str(on_time))
41     sleep(400)
```

Example Program – Python Editor

- Go to www.microbit.org/code and open the **Python Editor**.
- Drag the file **energyuse.py** onto the work area.
- This program will display the **amount of time** that a sensor attached to **pin 0** is 'high'.
- Test it, download it and **experiment** with how it works!

