

Switches

Reed Switch



```
from machine import Pin
from time import sleep
```

```
switch = Pin(16, Pin.IN, Pin.PULL_UP)
led = Pin(15, Pin.OUT)
```

```
while True:
    if switch.value() == 0:
        led.value(1)
    else:
        led.value(0)

    sleep(0.1)
```

Wiring Guide

- **Reed Switch Pin 1:** Connect to GP16 on the Pico 2 W.
- **Reed Switch Pin 2:** Connect to GND (Ground) on the Pico 2 W.
- **LED Anode (Long Leg):** Connect to GP15 (or use pin 25 for the onboard LED).
- **LED Cathode (Short Leg):** Connect through a 220Ω resistor to GND

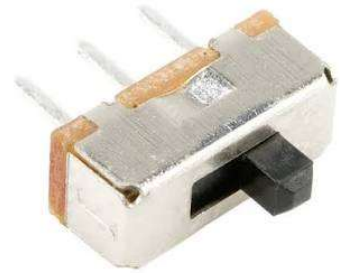
Slide switch

```
from machine import Pin
from time import sleep
```

```
switch = Pin(14, Pin.IN, Pin.PULL_DOWN)
led1 = Pin(15, Pin.OUT)
led2 = Pin(16, Pin.OUT)
```

```
while True:
    if switch.value() == 1:
        led1.value(1)
        led2.value(0)
    else:
        led1.value(0)
        led2.value(1)

    sleep(0.1)
```



Wiring Connections

A standard slide switch has 3 pins:

1. **Middle Pin (Common):** Connect to **GP14** (configured as an input pin).
2. **Left Pin:** Connect to **3.3V (Positive rail)** on the Pico 2 W.
3. **Right Pin:** Connect to **GND (Negative)** on the Pico 2 W.

LEDs:

- **LED 1 (Left):** Connect the positive leg (longer leg) to **GP15** through a 220Ω resistor, and the negative leg to **GND**.
- **LED 2 (Right):** Connect the positive leg to **GP16** through a 220Ω resistor, and the negative leg to **GND**.

Tilt Switch

```
from machine import Pin
from time import sleep
```

```
switch= Pin(14, Pin.IN, Pin.PULL_UP)
led = Pin(15, Pin.OUT)
```

```
while True:
    if switch.value() == 0:
        led.value(1)
    else:
        led.value(0)

    sleep(.05)
```



It rattles.

Wiring Guide

- **LED Anode (long leg):** Connected to **GP15** (or through a 220Ω resistor to GP15).
- **LED Cathode (short leg):** Connected to **GND**.
- **Tilt Switch Pin 1:** Connected to **GP14**.
- **Tilt Switch Pin 2:** Connected to **GND**

Photoresistor



```
from machine import Pin, ADC
from time import sleep
```

```
photo = ADC(Pin(26))
led = Pin(15, Pin.OUT)
```



When you want to add notes to your code,
put this at the beginning of the line.

```
# Define the darkness threshold
# MicroPython ADC values range from 0 (total darkness) to 65535 (pure brightness)
# Lower values mean it is darker. Adjust this number to change sensitivity.
DARKNESS_THRESHOLD = 20000
```

```
print("Photoresistor script is running ")
```

```
while True:
```

```
    light_value = photo.read_u16()
    print("Light level:", light_value)
```

```
    if light_value < DARKNESS_THRESHOLD:
        led.value(1)
    else:
        led.value(0)
```

```
    sleep(0.1)
```

Wiring Reference

- **LED:** Connect the long leg (anode) to **GPIO 15** through a 220Ω current-limiting resistor. Connect the short leg (cathode) to a **GND** pin.
- **Photoresistor:** Connect one leg to **the positive rail**. Connect the other leg to **GPIO 26 (ADC0)**. Also, connect a $10k\Omega$ pull-down resistor from **GPIO 26** to **GND** to create a voltage divider.