



# HARDWARE GUIDE



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DIY Setup

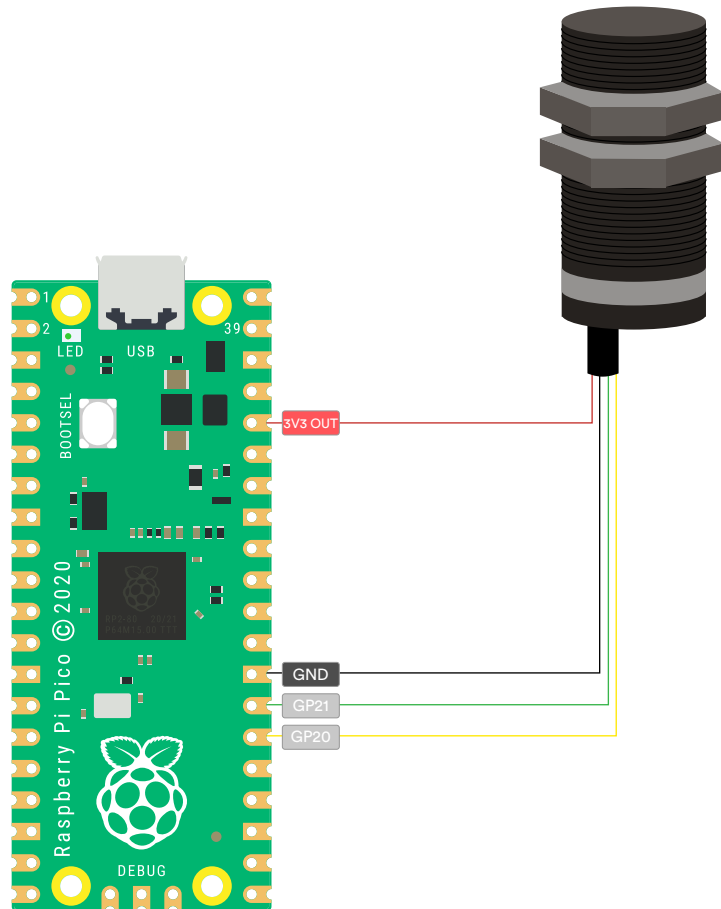
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Default Layout

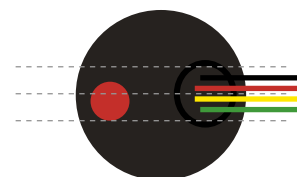
Disclaimer: This DIY guide is provided for educational and informational purposes only. The steps outlined in this guide involve working with electronic components, which may pose risks if not handled properly. Please proceed with caution and ensure you have the necessary skills and knowledge to safely complete this project. The author assumes no responsibility for any injury, damage, or loss that may occur as a result of following this guide. By proceeding with this project, you agree to take full responsibility for your actions and any outcomes. Always prioritize safety and consult a professional if needed.

# CAMERA

## DF ROBOT IR CAMERA



Camera Alignment  
(test in App after construction  
for best results)

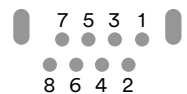
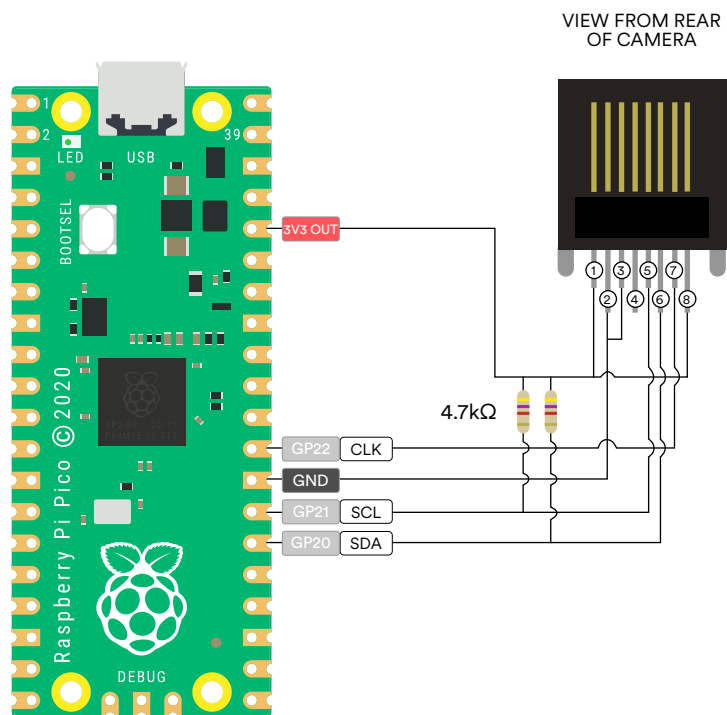


Red - VCC+  
Black - GND  
Green - SCL  
Yellow - SDA

# CAMERA

## DIY WIIMOTE CONVERSION (USING CLOCK PIN)

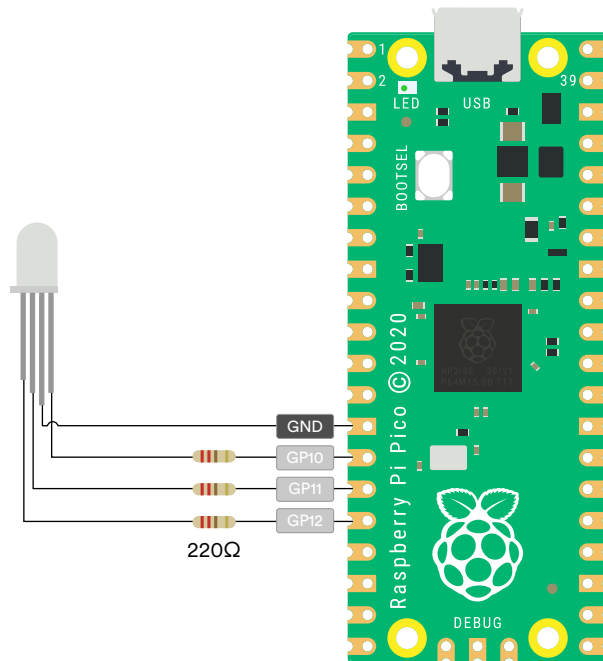
**NOTE:**  
Suggested pin-out.  
Clock pin will need to  
be set in the App.



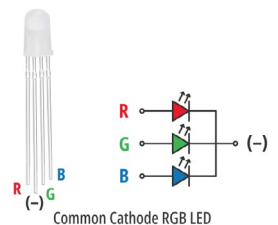
PINOUT VIEWED  
FROM BOTTOM

# STATUS LED

## 4-PIN COMMON CATHODE

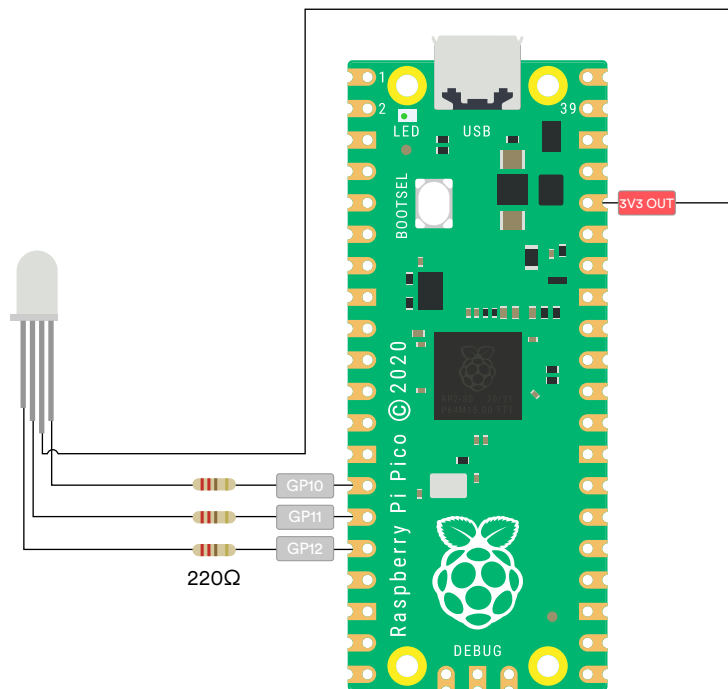


**NOTE:**  
Individual pins can be  
reassigned in the App  
if needed.

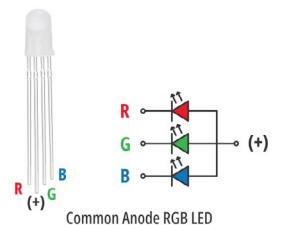


# STATUS LED

## 4-PIN COMMON ANODE

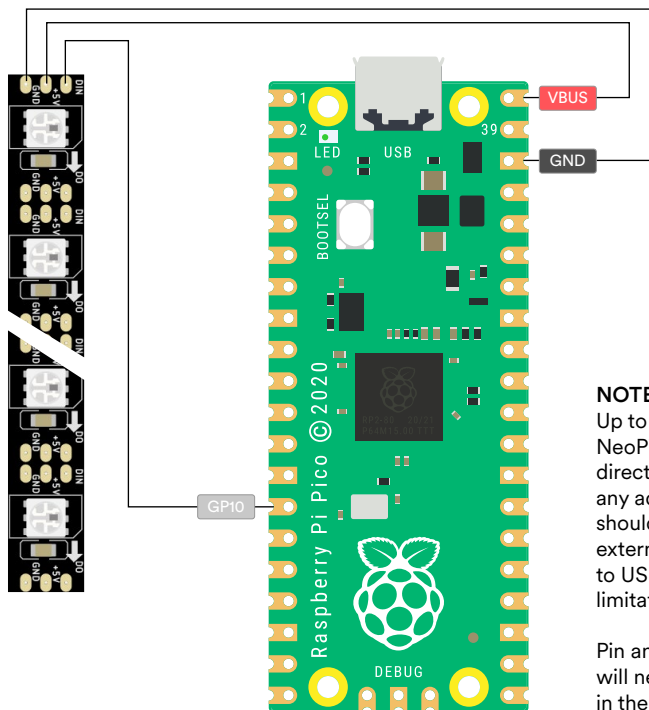


**NOTE:**  
Individual pins can be  
reassigned in the App  
if needed.



# STATUS LED

## 5V NEOPIXEL



**NOTE:**

Up to three/four NeoPixels can be run directly off VBUS - any additional pixels should be driven by external voltage due to USB amp draw limitations.

Pin and extra settings will need to be setup in the App.



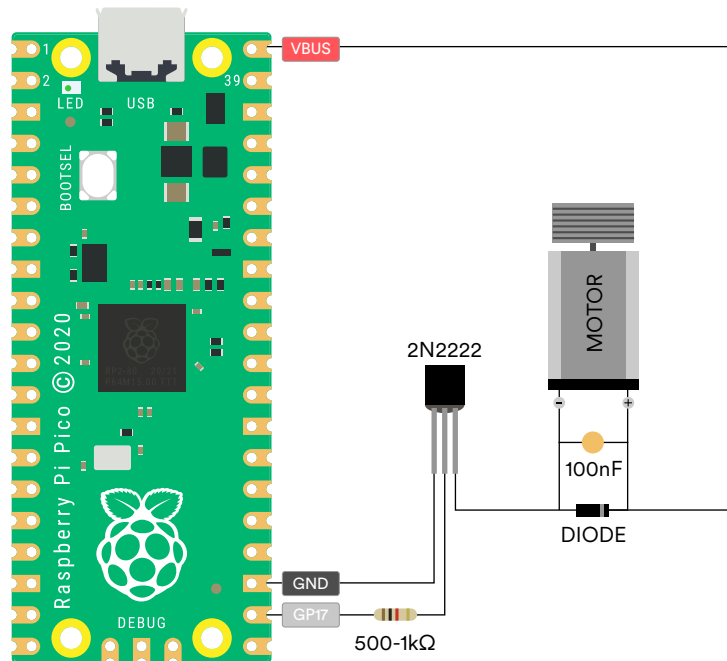
# RUMBLE

## DIY SETUP

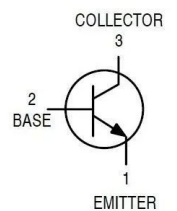
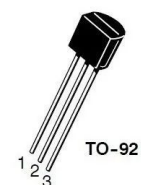
**TRANSISTORS:**  
2N2222

**RUMBLE MOTORS:**  
N20

**Diodes:**  
1N4001 (Obsolete)  
1N4007



**2N2222**



# RUMBLE

## MOSFET MODULE SETUP

### MOSFET MODULES:

AOD4184  
LR7843

### SOLENOIDS:

JB-0530 (12V)  
JB-0530 (24V)  
JF-1039(12V)  
JF-1039(24V)

### TEMP SENSORS:

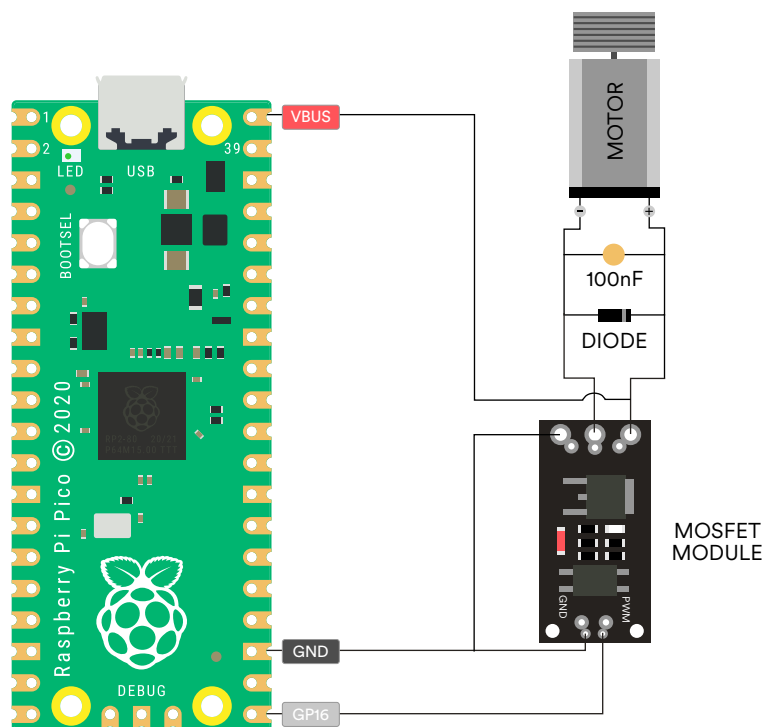
TMP36

### Diodes:

1N4001 (Obsolete)  
1N4007

### NOTE:

Temp sensor pin will need to be allocated in the App to be allocated in the App (analog pins only).



# SOLENOID

## DIY SETUP

### MOSFET MODULES:

IRL540  
IRL44Z

### SOLENOIDS:

JB-0530 (12V)  
JB-0530 (24V)  
JF-1039(12V)  
JF-1039(24V)

### TEMP SENSORS:

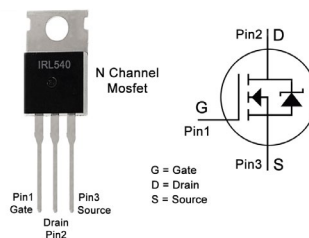
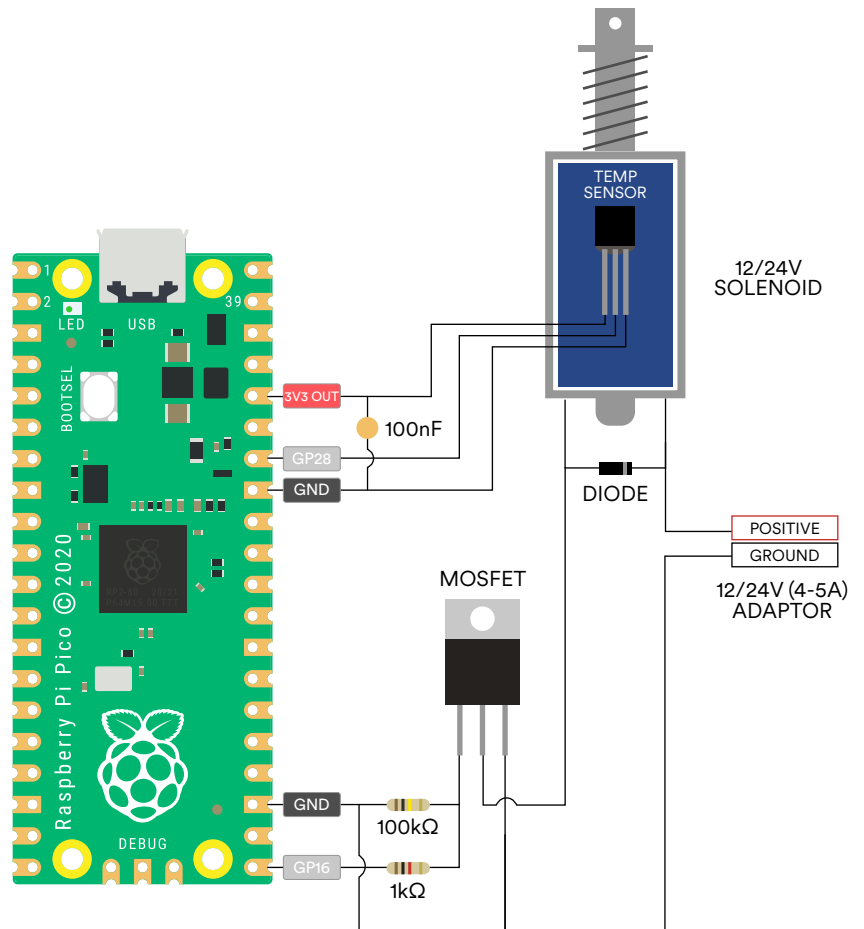
TMP36

### Diodes:

1N4001 (Obsolete)  
1N4007

### NOTE:

Temp sensor pin will need to be allocated in the App to be allocated in the App (analog pins only).



# SOLENOID

## MOSFET MODULE SETUP

### MOSFET MODULES:

AOD4184  
LR7843

### SOLENOIDS:

JB-0530 (12V)  
JB-0530 (24V)  
JF-1039(12V)  
JF-1039(24V)

### TEMP SENSORS:

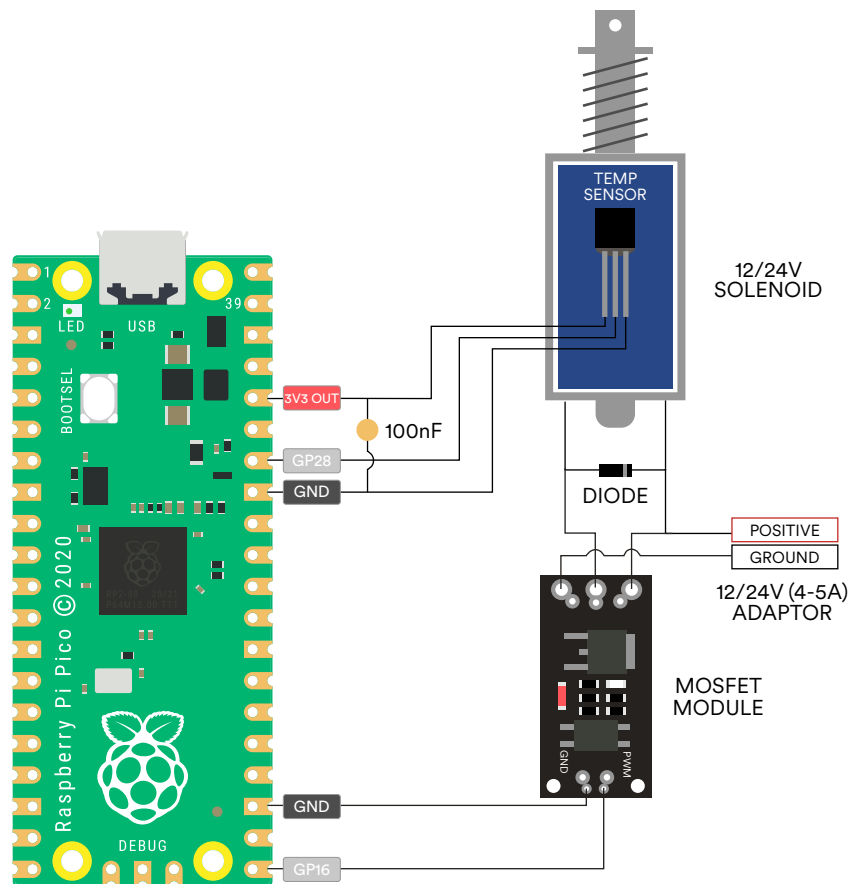
TMP36

### Diodes:

1N4001 (Obsolete)  
1N4007

### NOTE:

Temp sensor pin will need to be allocated in the App (analog pins only).



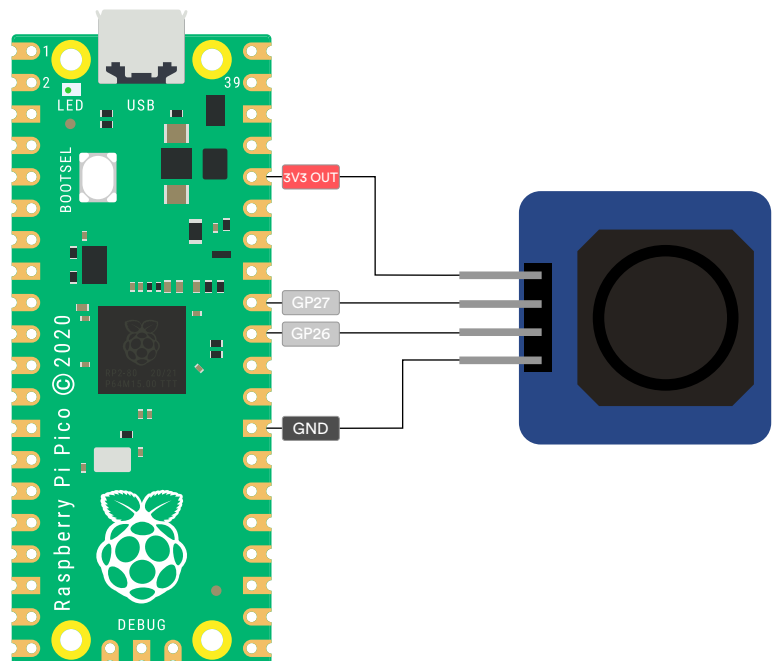
# ANALOG STICK

## DIY SETUP

**NOTE:**

There are many versions of these so check your pin-outs carefully.

Suggested Pins  
(these need to be assigned to analog pins and will need to be allocated in the App).



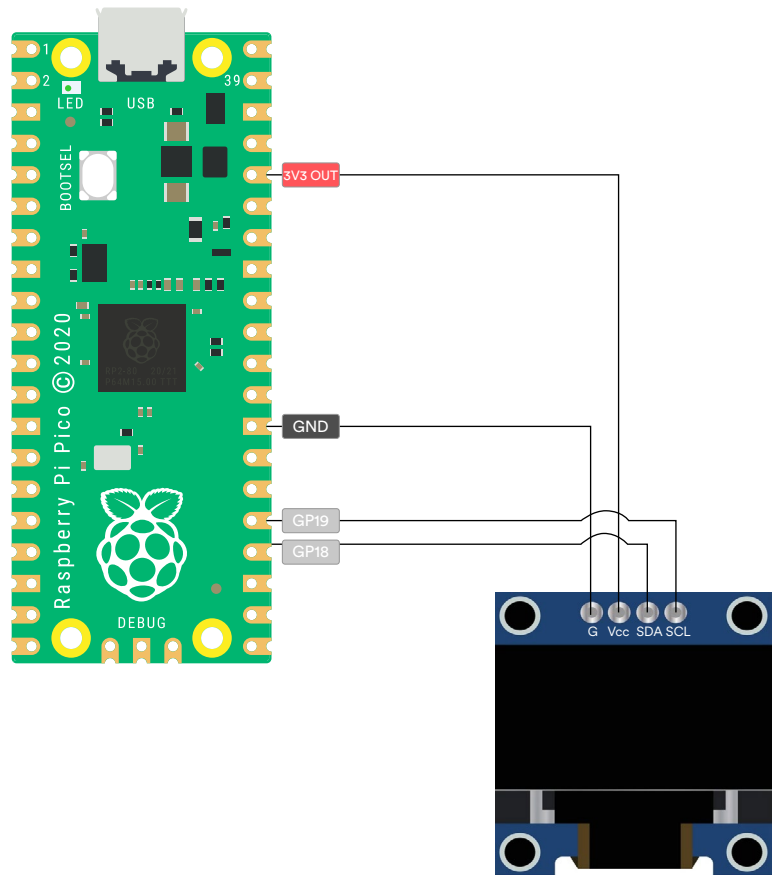
# OLED

## DIY SETUP

### NOTE:

Your pin-outs may differ follow your boards layout.

Suggested Pins  
(these need to be assigned to I2C pins and will need to be allocated in the App).

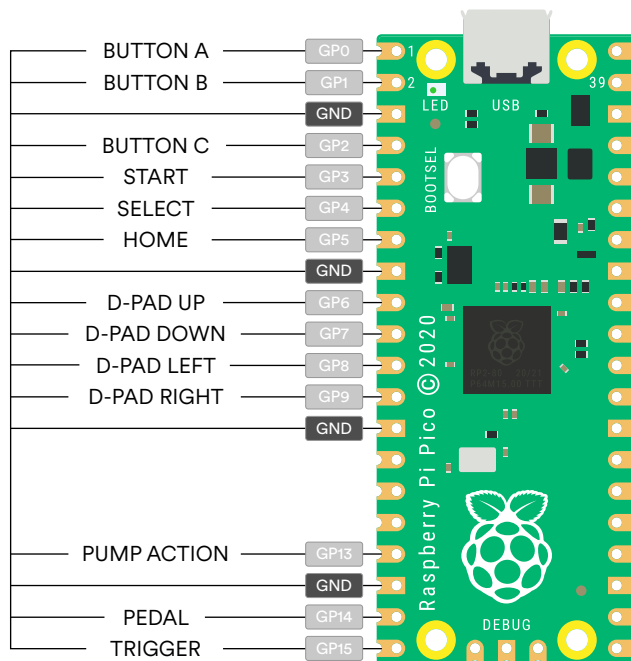


SSD1306 1.3 inch  
I2C OLED Display  
Module 128x64

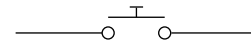


# BUTTONS

## DEFAULT LAYOUT



Buttons are all assigned internal pull-up resistors so no extra hardware is needed. Any momentary, normally open button will work.



**NOTE:**  
Buttons can be reassigned in the App if needed.

