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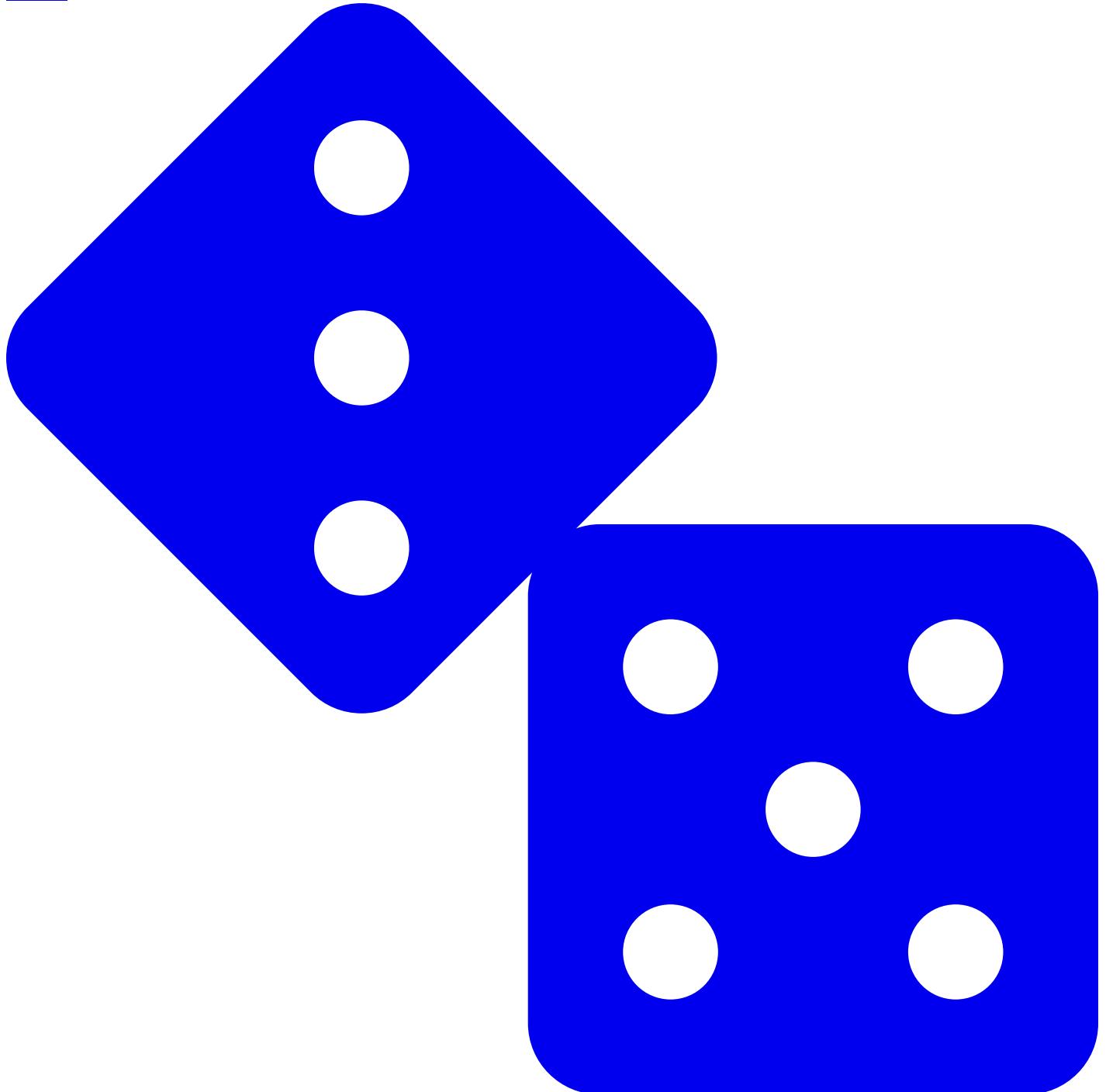
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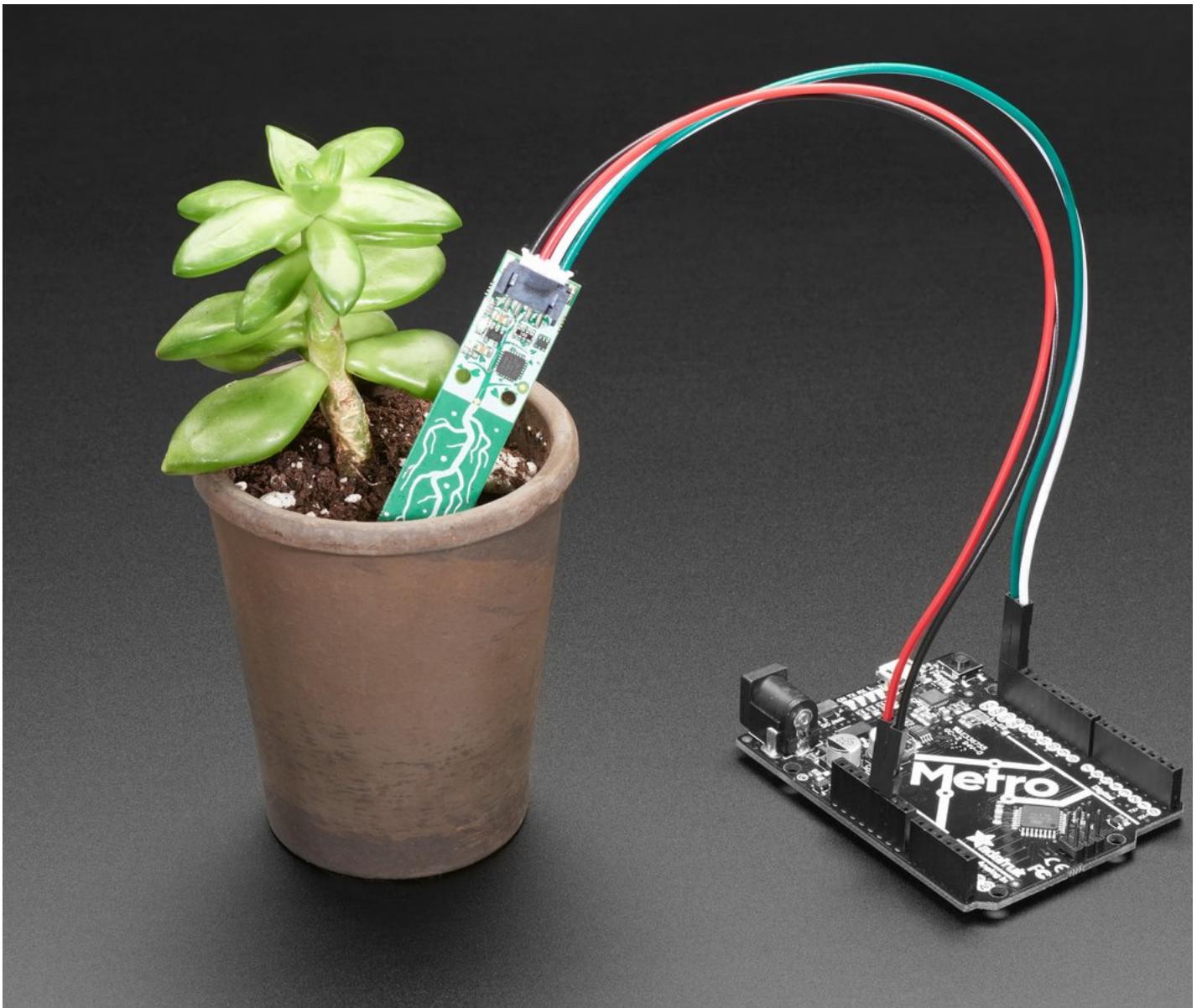
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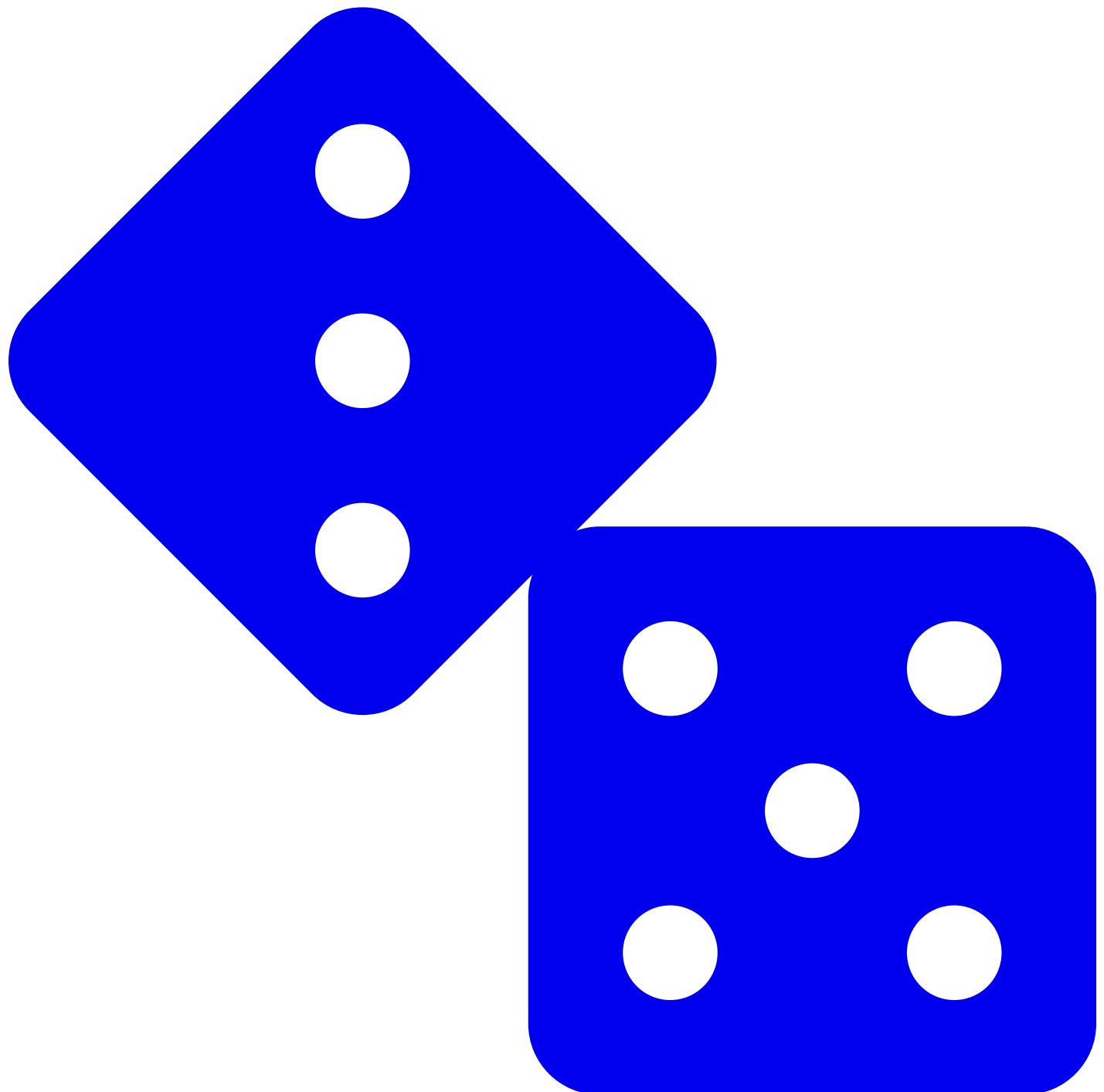


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[Monochrome OLED Breakouts](#) Power Requirements



## Monochrome OLED Breakouts

By [ladyada](#)

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- [Overview](#)
- [Power Requirements](#)
- [Arduino Library & Examples](#)
- [Wiring 128x64 OLEDs](#)
- [Wiring 128x32 SPI OLED display](#)
- [Wiring 128x32 I2C Display](#)
- [Wiring OLD 0.96" 128x64 OLED](#)
- [CircuitPython Wiring](#)
- [CircuitPython Setup](#)
- [CircuitPython Usage](#)
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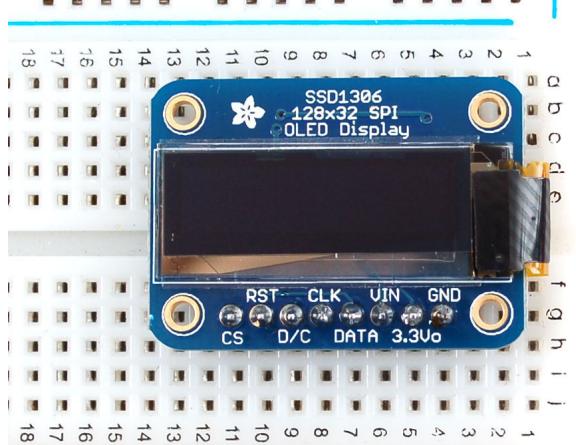
## OLED Power Requirements

The OLED and driver require a 3.3V power supply and 3.3V logic levels for communication. The power requirements depend a little on how much of the display is lit but on average the display uses about 20mA from the 3.3V supply. Built into the OLED driver is a simple switch-cap charge pump that turns 3.3v-5v into a high voltage drive for the OLEDs. You can run the entire display off of one 3.3V supply or use 3.3V for the chip power and up to 4.5V for the OLED charge pump or 3.3V for the chip power and a 7-9V supply directly into the OLED high voltage pin.

## 5V- ready 128x64 and 128x32 OLEDs

Unless you have the older v1 128x64 OLED, you can rest assured that your OLED is 5V ready. All 1.3" 128x64 and the small 128x32 SPI and I2C are 5V ready, if you have a v2 0.96" 128x64 OLED with the 5V ready mark on the front, it's also 5V safe. If you have an older 0.96" OLED (see below) you'll need to take extra care when wiring it to a 5V microcontroller. The OLED is designed to be 5V compatible so you can power it with 3-5V and the onboard regulator will take care of the rest.

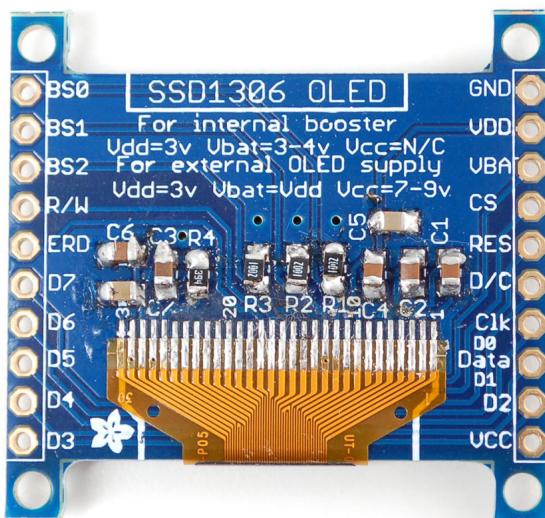
All OLEDs are safe to use with 3.3V logic and power.



Simply connect GND to ground, and Vin to a 3 to 5V power supply. There will be a 3.3V output on the 3Vo pin in case you want a regulated 3.3V supply for something else.

## 0.96" 128x64 OLED

The older 0.96" 128x64 OLED is a little more complex to get running as it is not 5V compatible by default, so you have to provide it with 3.3V power.



- **VDD** is the 3.3V logic power. This must be 3 or 3.3V
- **VBAT** is the input to the charge pump. If you use the charge pump, this must be 3.3V to 4.2V
- **VCC** is the high voltage OLED pin. If you're using the internal charge pump, this must be left unconnected. If you're not using the charge pump, connect this to a 7-9V DC power supply.

For most users, we suggest connecting **VDD** and **VBAT** together to 3.3V and then leaving **VCC** unconnected.

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This page (Power Requirements) was last updated on Jul 23, 2012.

Text editor powered by [tinymce](#).

Difficulty: Beginner

Guide Type: Skill

Contributors: [lady ada](#), [Melissa LeBlanc-Williams](#), [Kattni Rembor](#), [Carter Nelson](#)

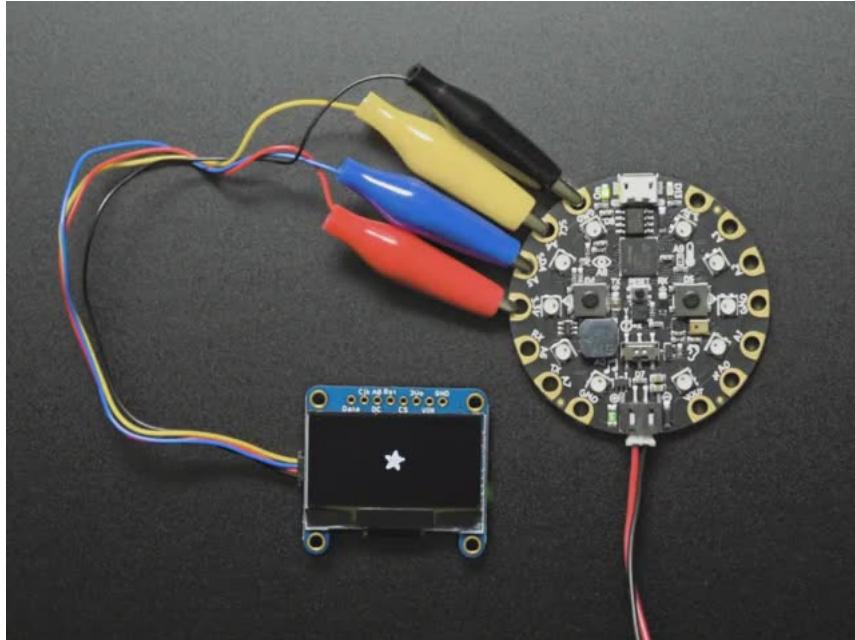
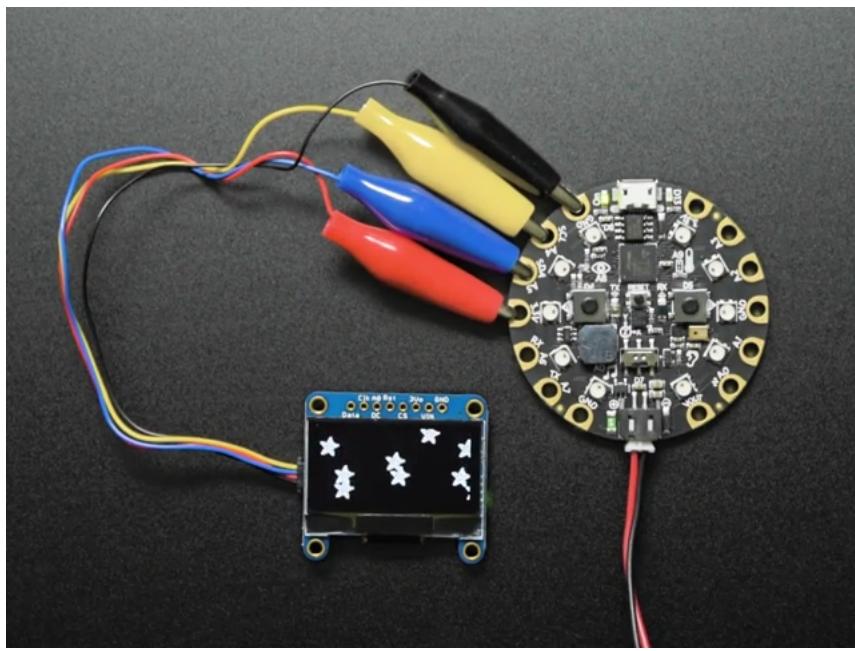
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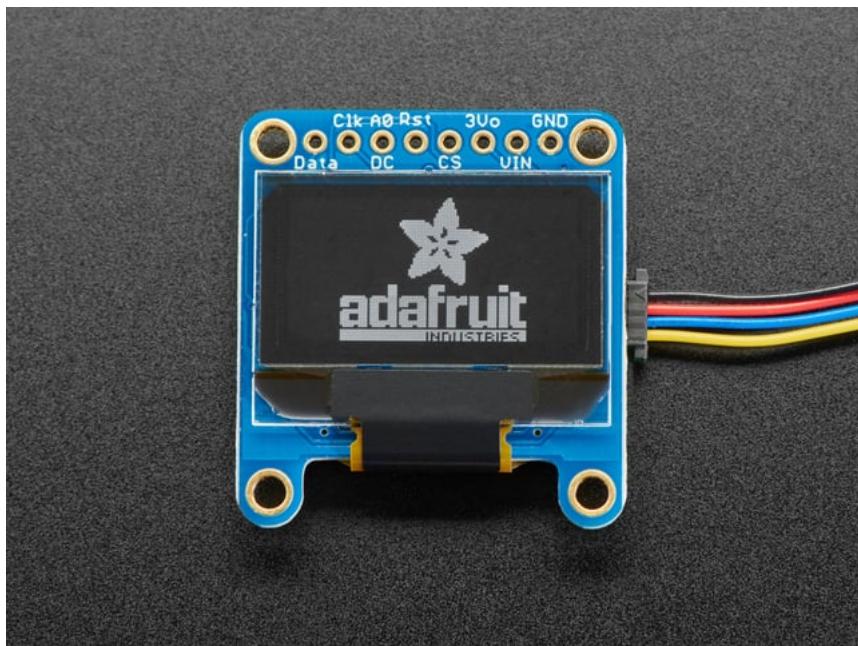
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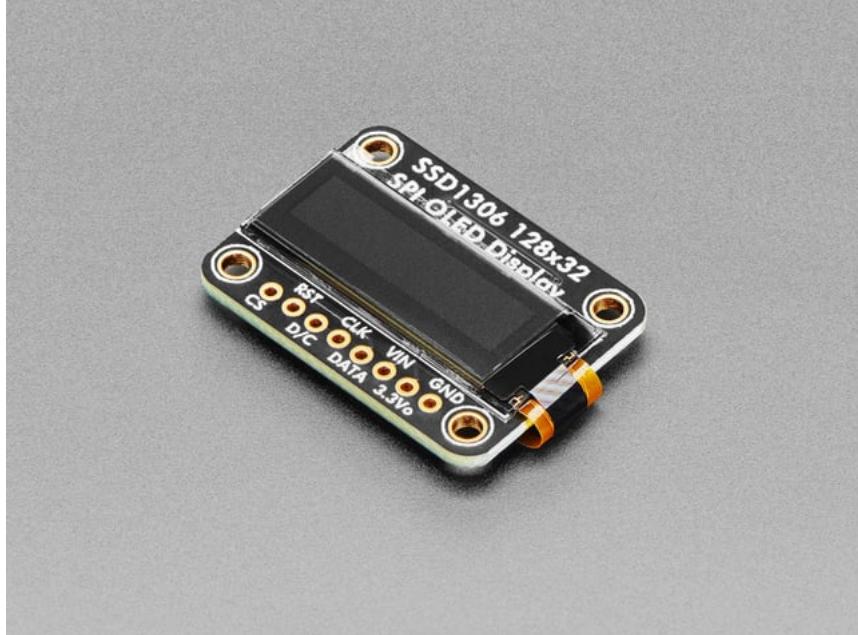
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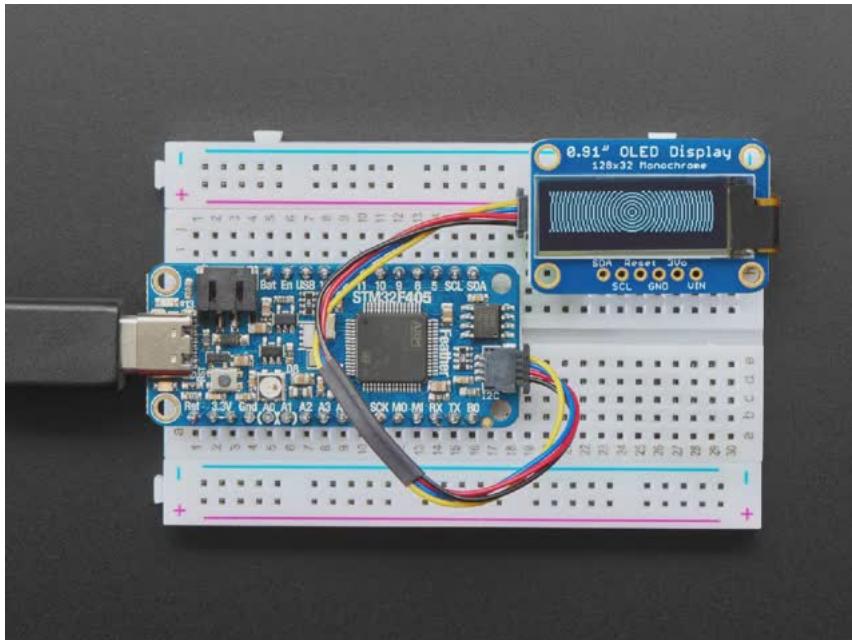
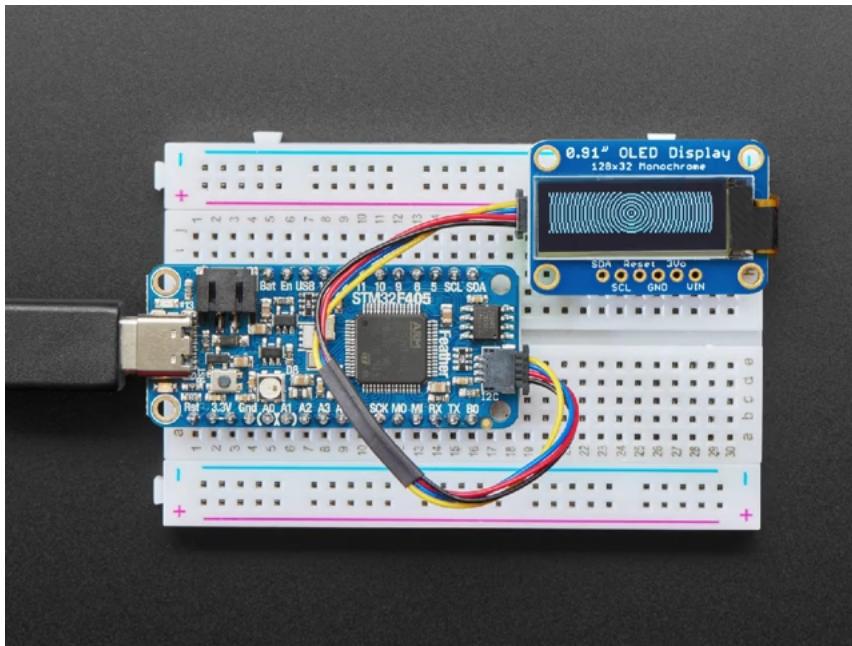
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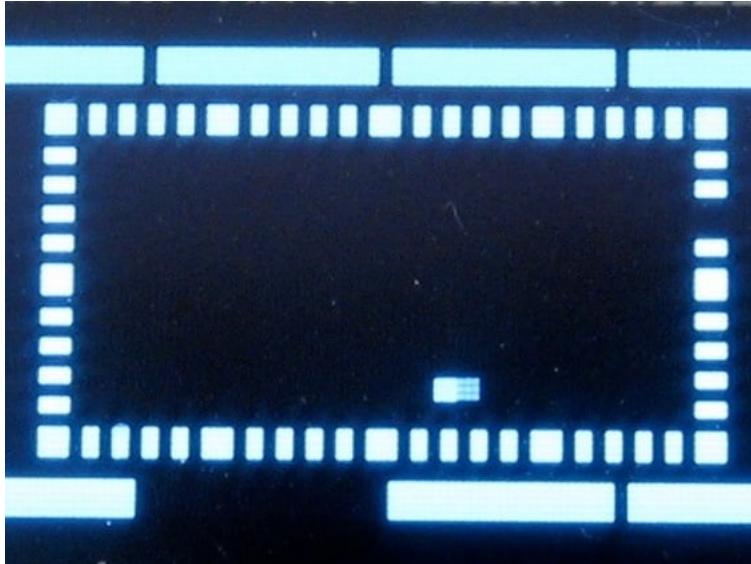


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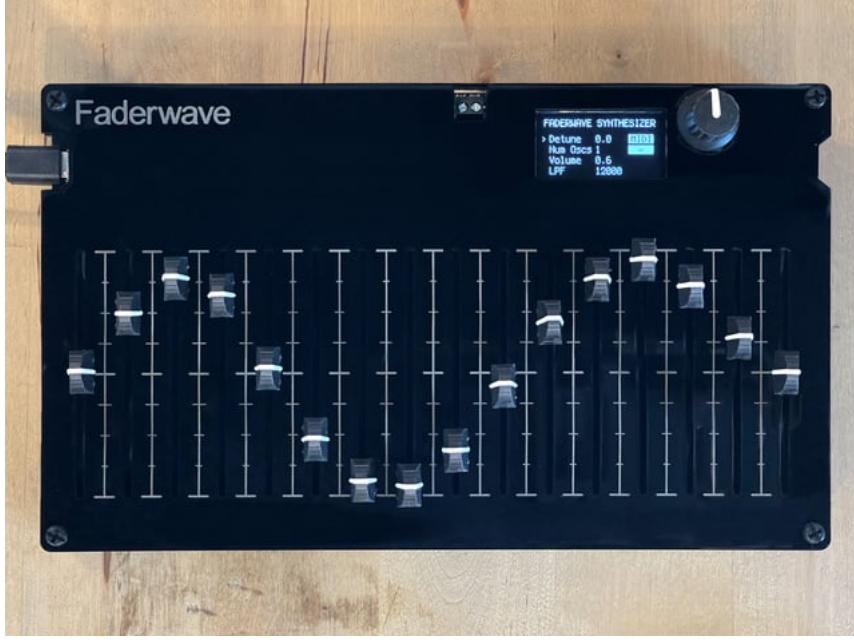
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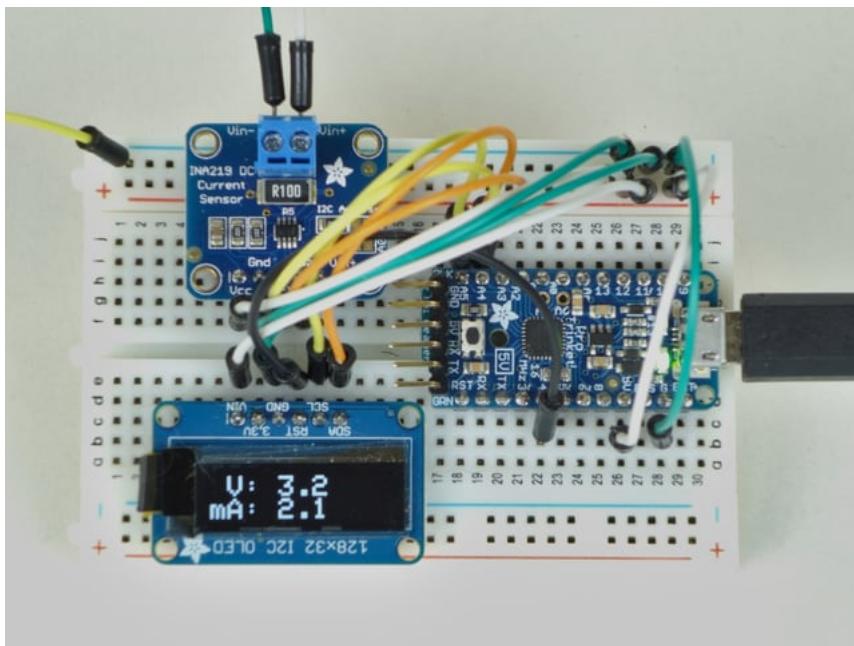
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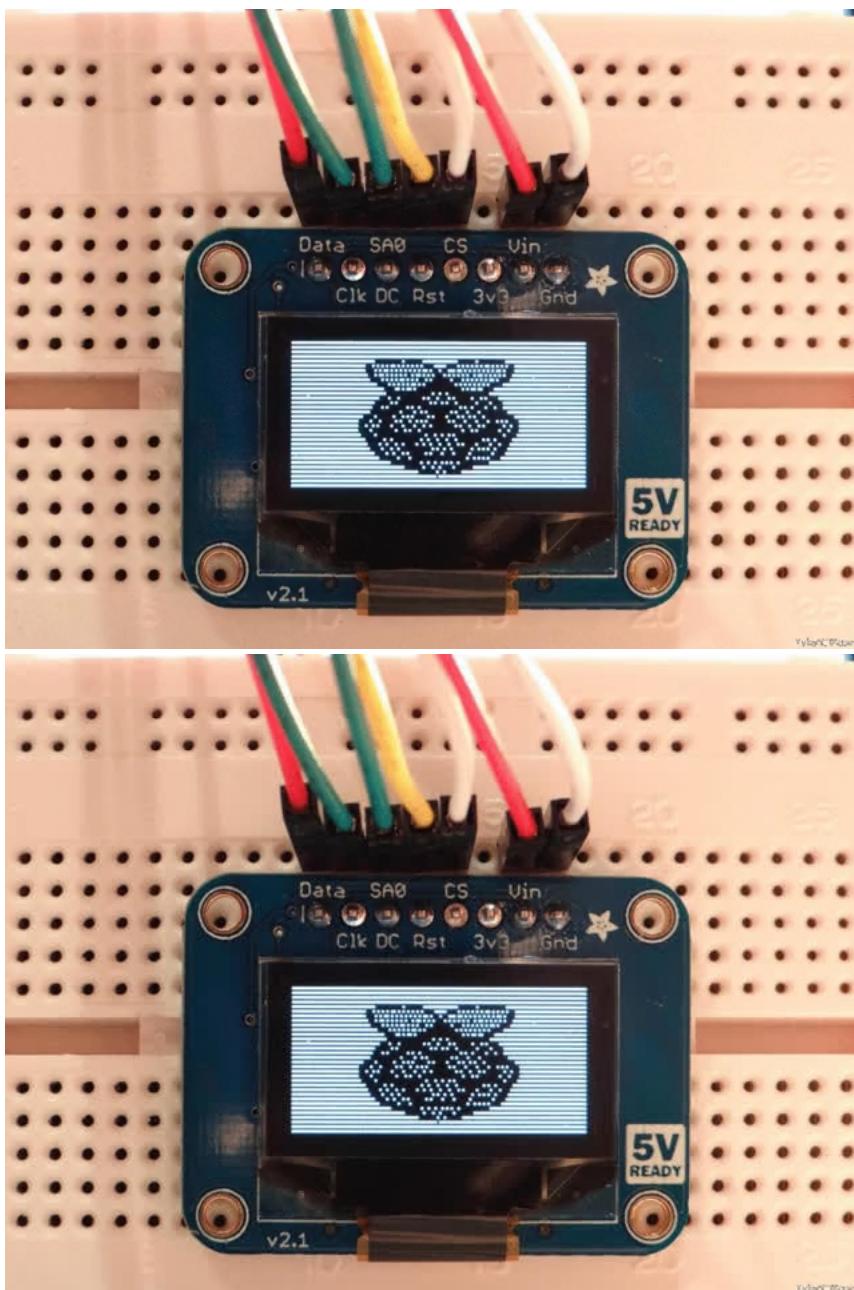


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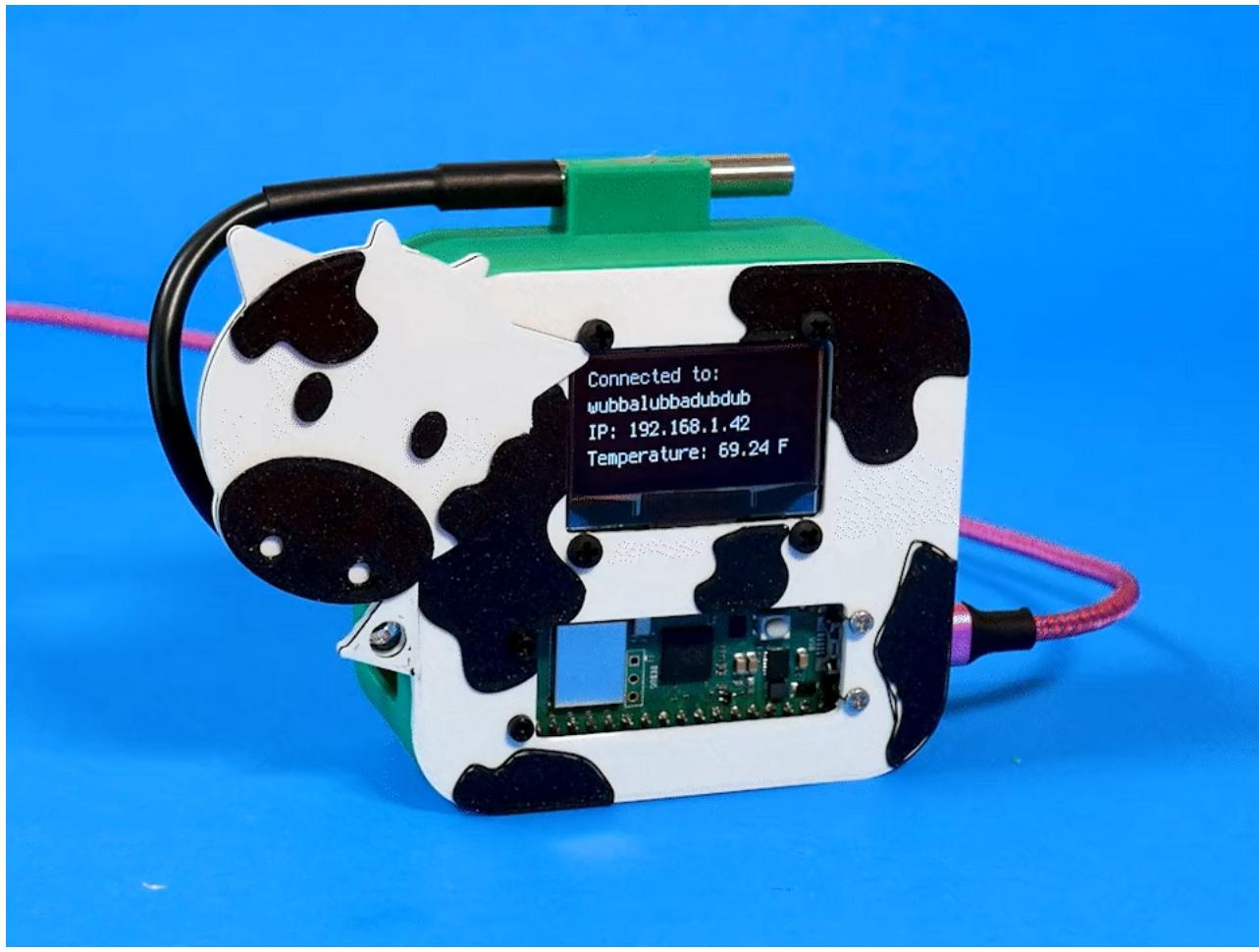


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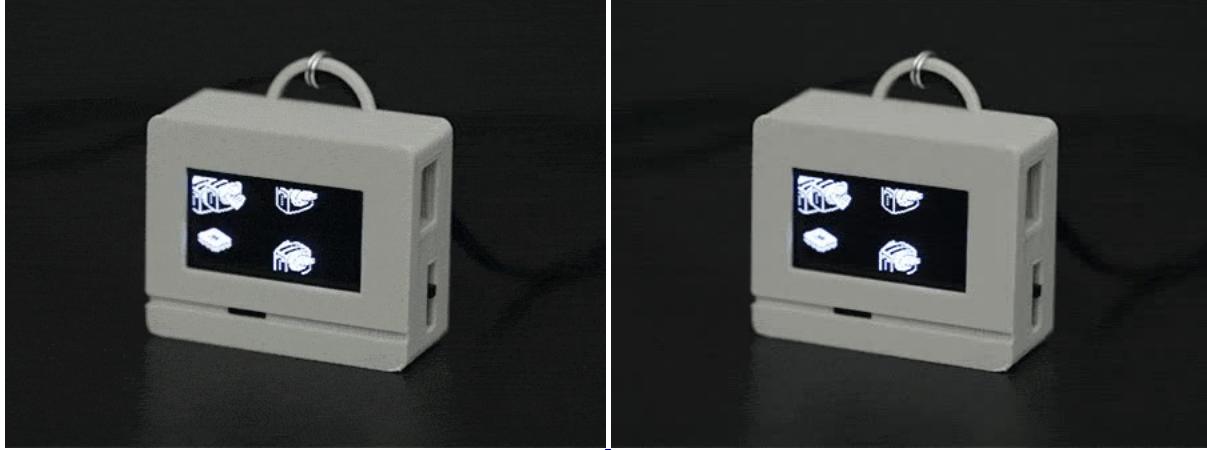
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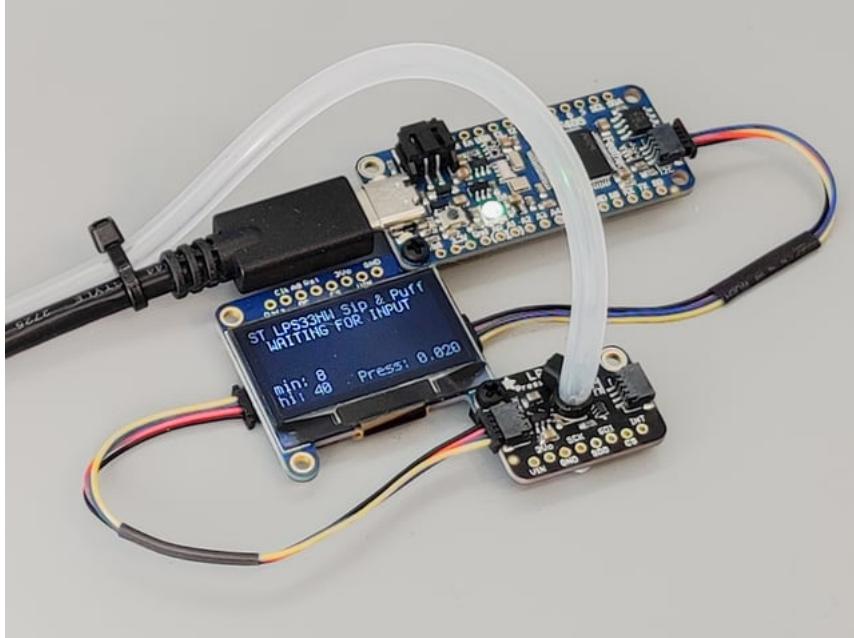
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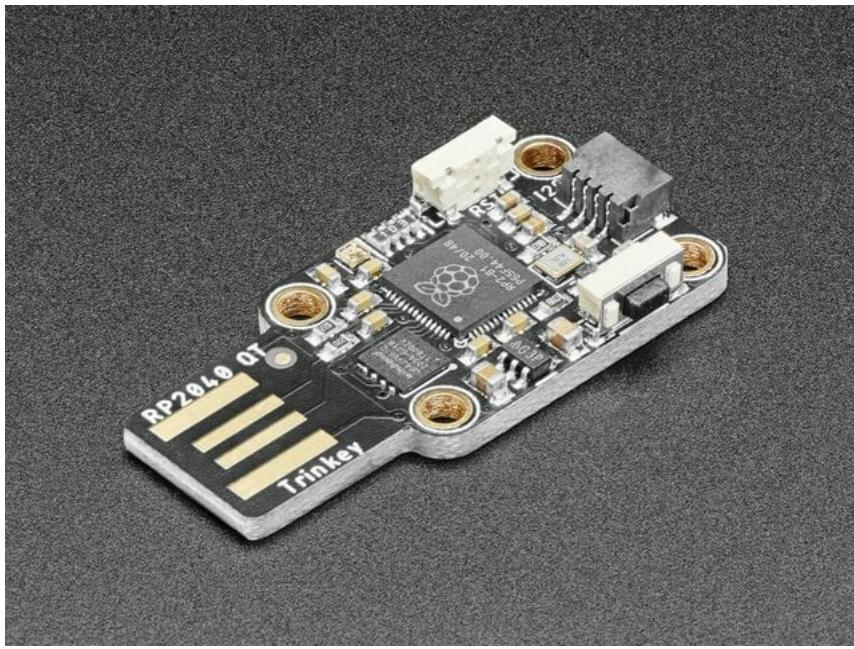
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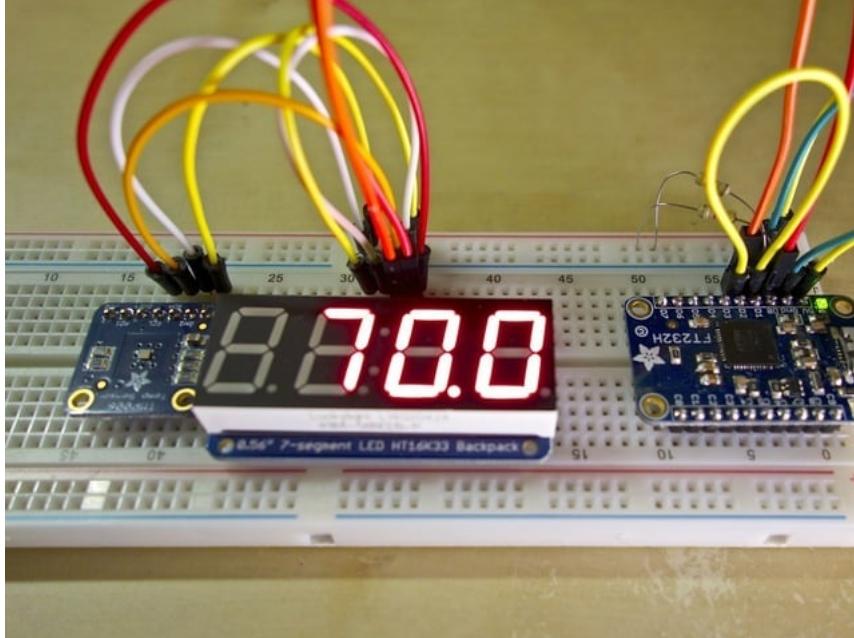
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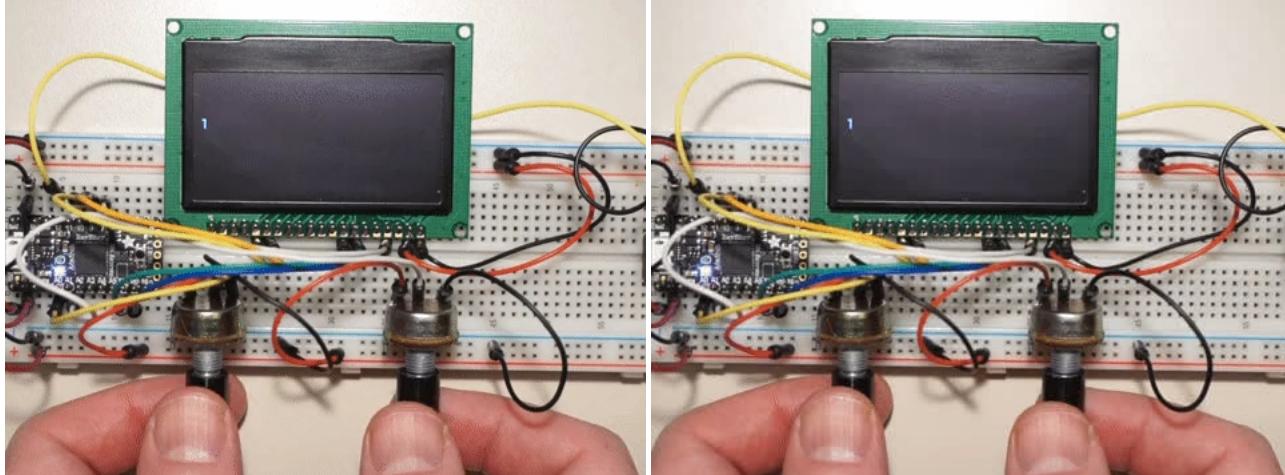
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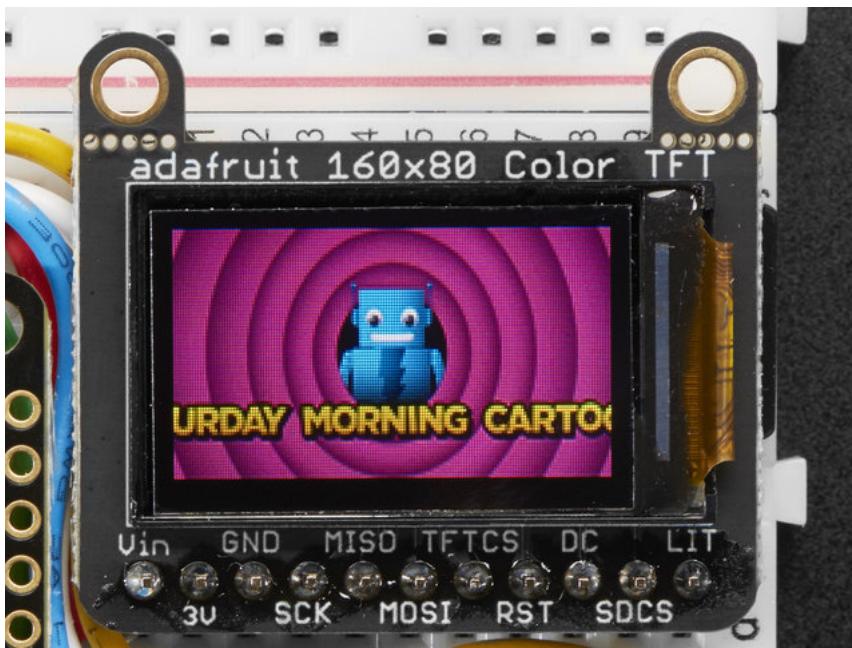
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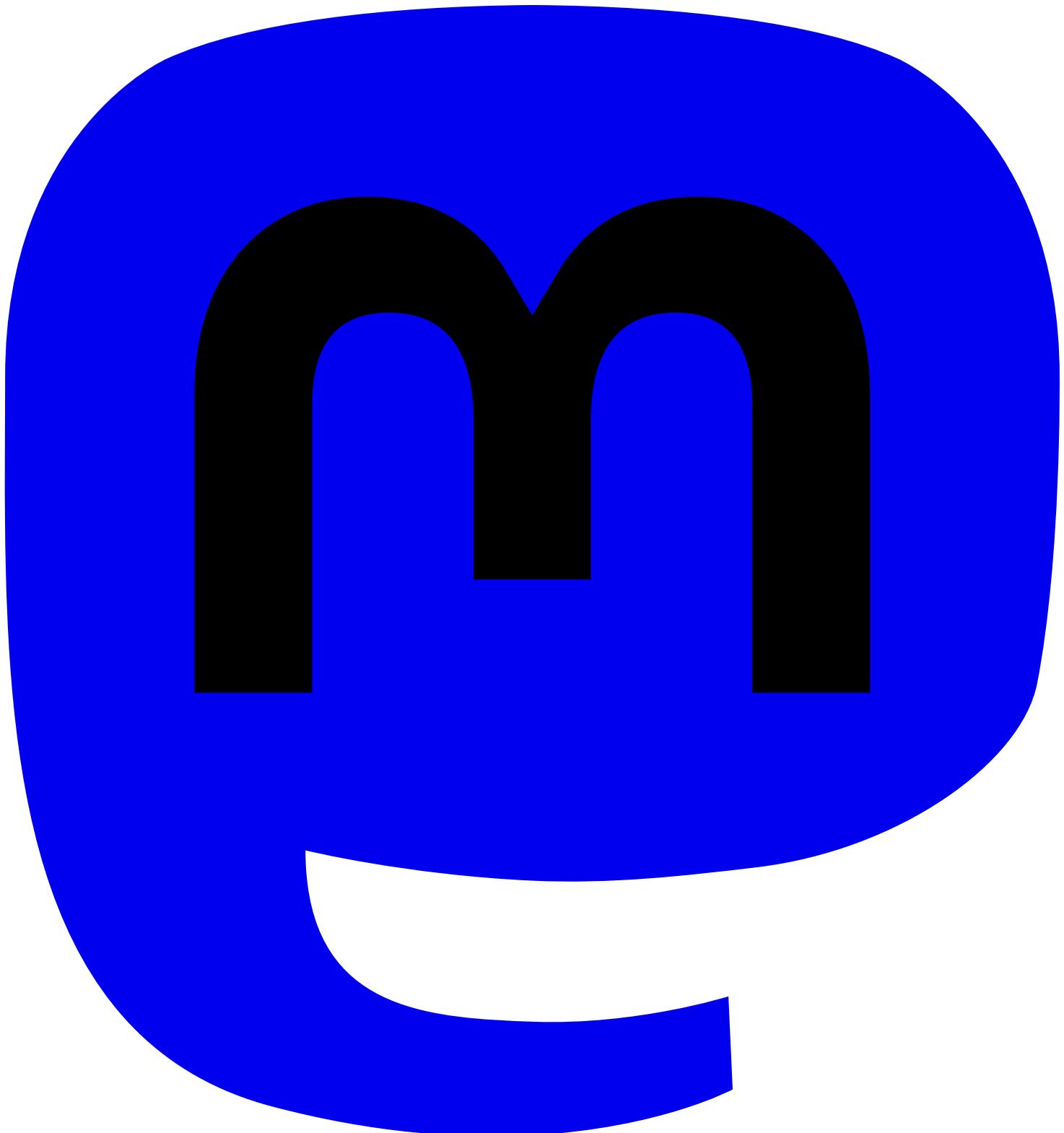
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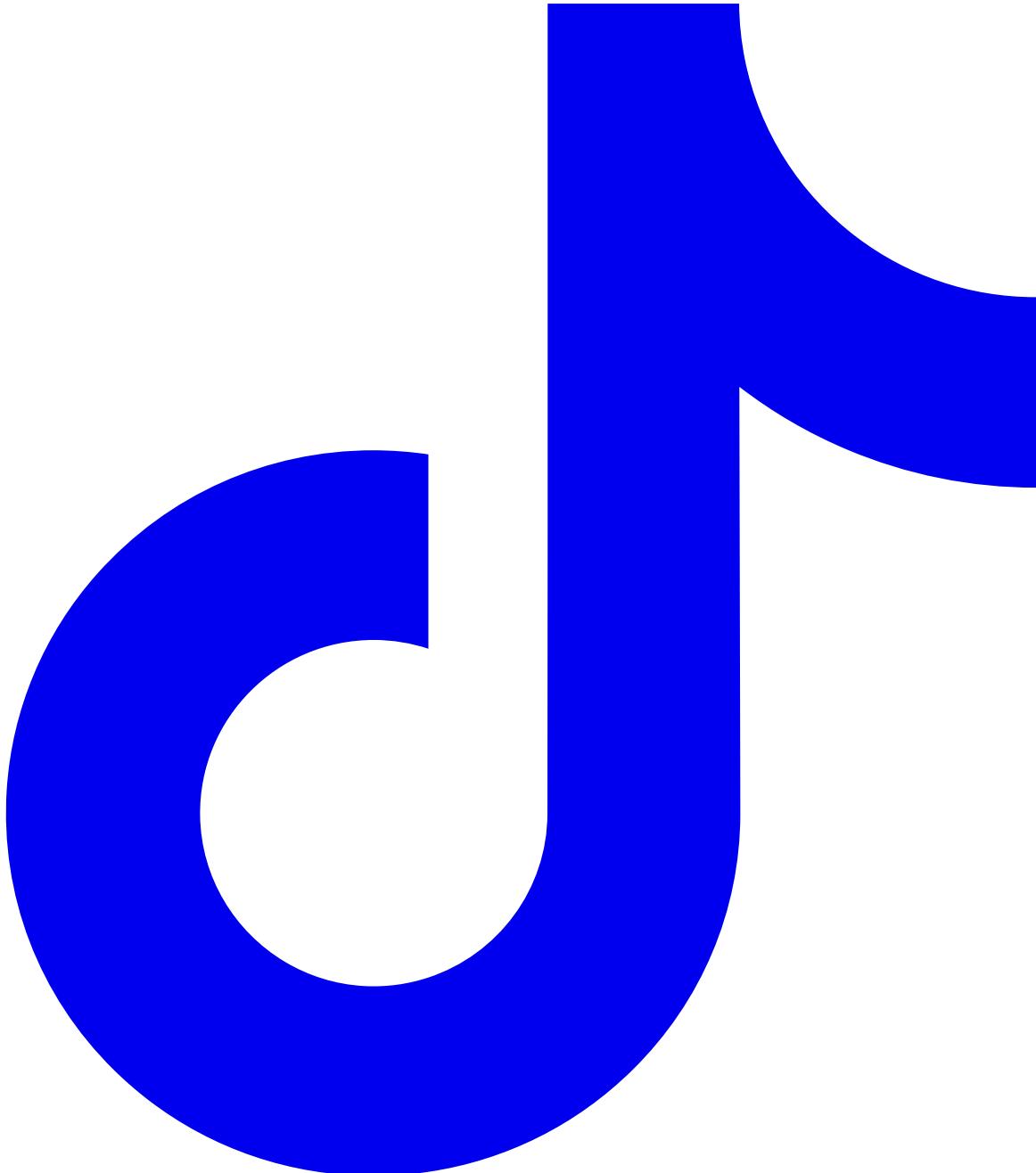
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