Adafruit Swirly Aluminum Mounting Grid for 0.1" Spaced PCBs

Created by Kattni Rembor
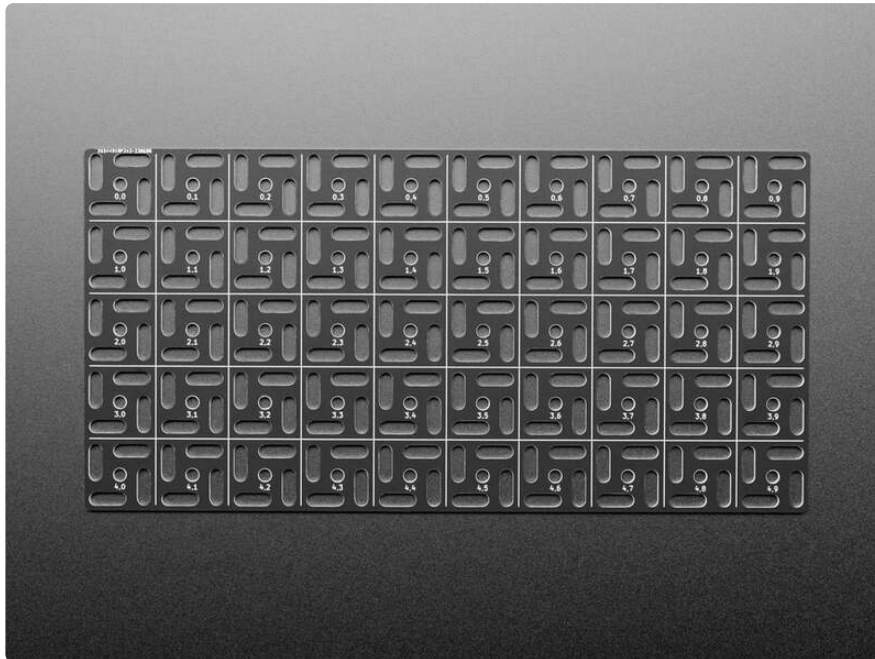

https://learn.adafruit.com/swirly-grid
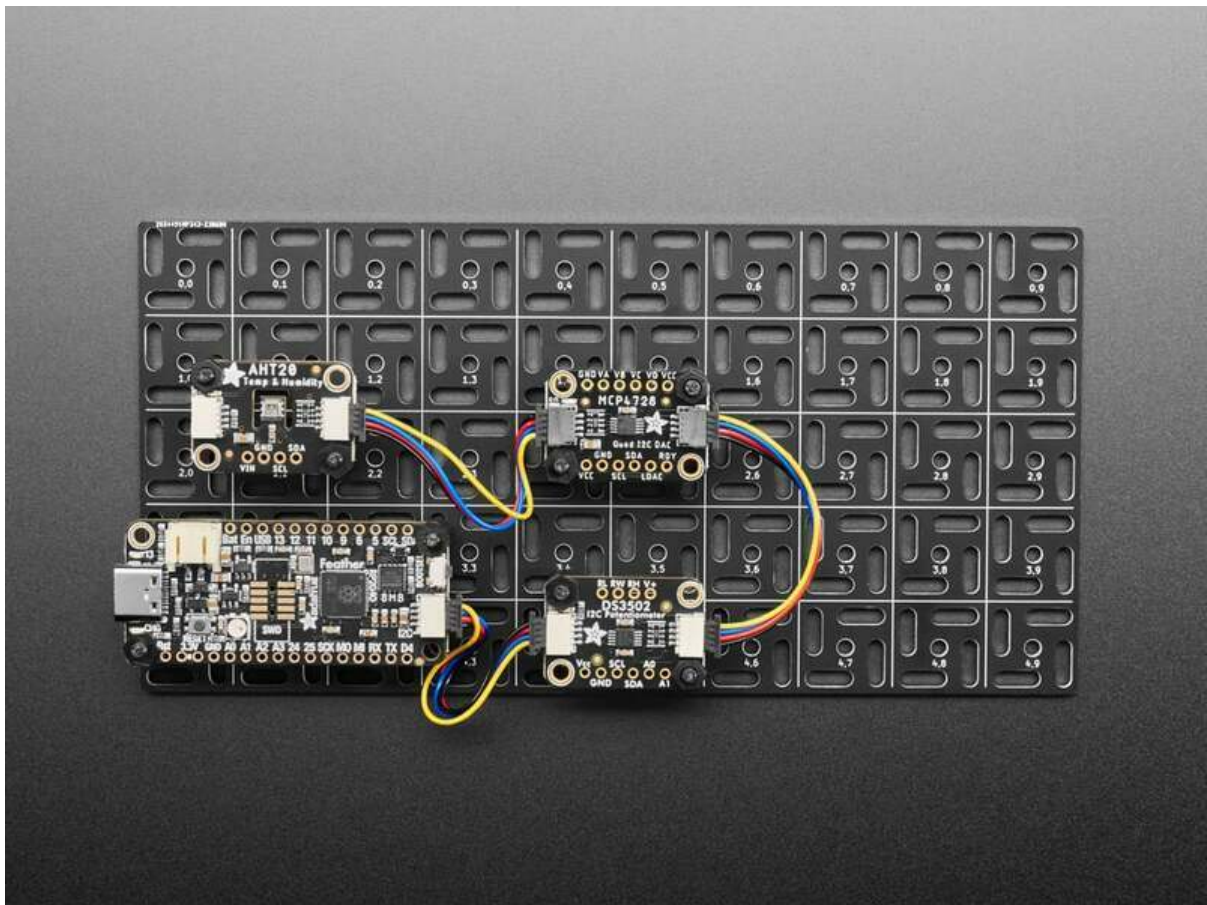
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Overview

Most Adafruit dev boards, sensors and Feathers are now sporting [plug-and-play Stemma QT ports (https://adafru.it/18Me)](https://adafru.it/18Me). It can be very fast to put together projects with half a dozen boards snapped together. But that ease of use has one downside: now you don't have a breadboard as a mechanical substrate... which is why we created [this nifty swirly grid design (http://adafru.it/5774)](http://adafru.it/5774) to allow for easy mounting of various small microcontroller and sensor boards.
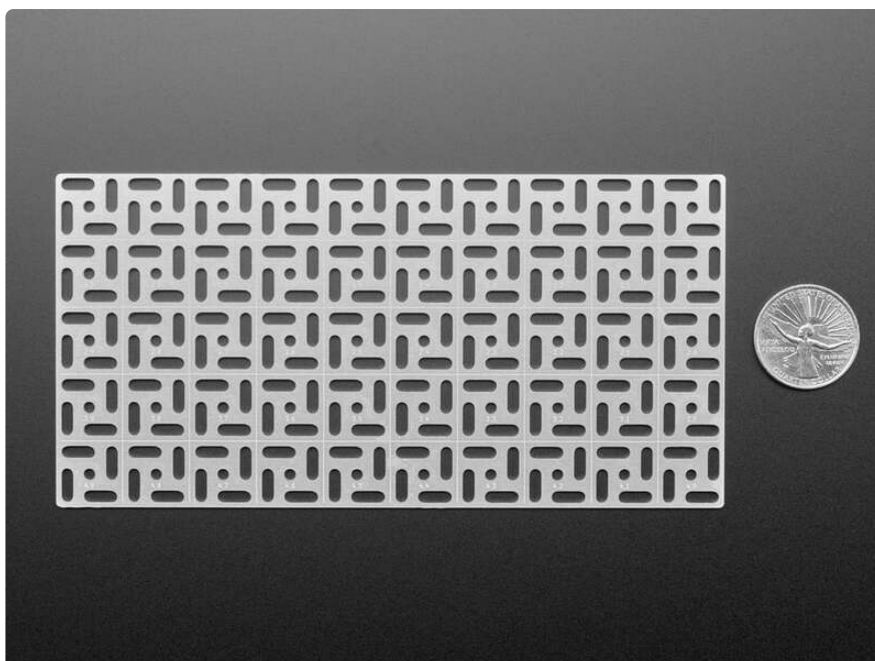
The grid is made out of aluminum. It is made like a PCB, but contains only the aluminum backing with black soldermask and silkscreen on the front. We highly

suggest using nylon screws as aluminum is conductive, both electrically and thermally. That said, if you want to turn the whole grid into a ground plane, metal screws will get you there.

Grid Details
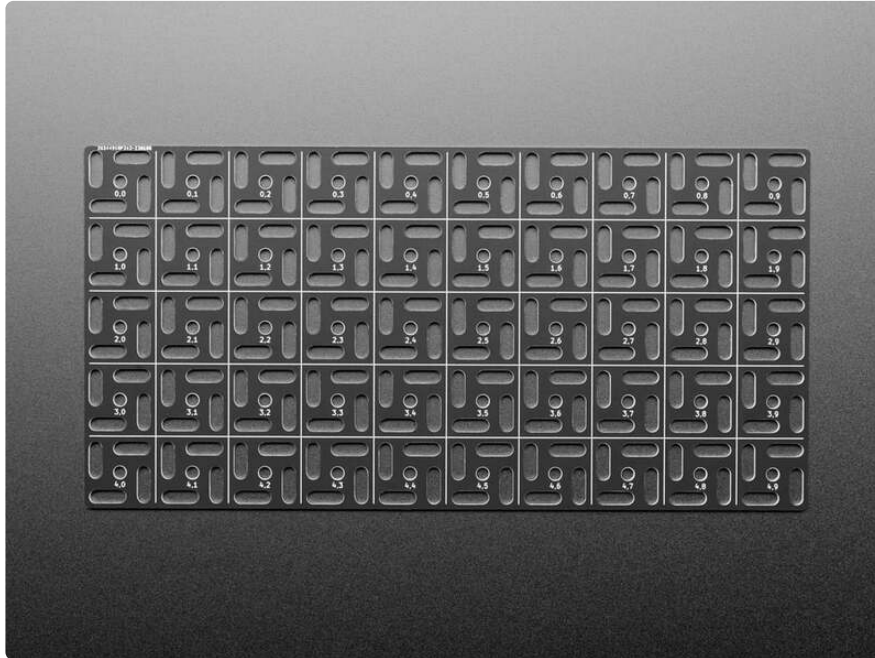
The swirly grids are an aluminum-only PCB, made up of the aluminum backing with black soldermask on the front along with a silkscreen.

The 10x5 grid is 3" x 6" altogether.

Swirly grid features:

- White lines to separate each square in the grid
- The coordinates of each square within the grid, printed in the center of each square
- Each square is 0.6" x 0.6"
- Holes or slots every 0.2"
- Boards with mounting hole spacing that is a multiple of 0.1" will mount to the grid
- Compatible with Feathers, FeatherWings, and most STEMMA QT breakout boards
- Drill holes are 0.1" (2.45mm) diameter
- Slots are 0.11" x 0.3" (2.75mm x 7.5mm)
- If desired, easy to customise by cutting, drilling, machining, bending the aluminum

Tips and Tricks

As you continue working with your Swirly Grid, you may find new and interesting ways to mount things to or use the grid. This page is tips and tricks to expand your Swirly Grid experience!

The more time folks get with Swirly Grids, the more tips and tricks you'll find on this page. Keep an eye on it!

> Do you have any tips or tricks for using the Swirly Grids? Send 'em our way! You can leave feedback on the guide, tag us on Discord, or drop an email to Adafruit Support. We'd love to hear them!

Using STEMMA QT cables with the grid

STEMMA QT connectors fit through the slots on the grid! You can carefully slide the STEMMA QT JST PH 4-pin cables through the slots. It sometimes involves wiggling the connector into different orientations to get it through, but it's pretty simple to do. (Removing it goes the same way!)

Routing your STEMMA QT cables through the grid makes it easier to mount connected boards on both sides of the grid. It is also useful if you are looking for a cleaner look across the top of the grid, between a series of STEMMA QT connected boards.

Grid stacking

Using the nylon standoffs available in the nylon screw kits, you can stack grids for multiple "floors".

Downloads

Files:

- KiCAD PCB files zip from GitHub (https://adafru.it/18Mf)

10x5 Swirly Grid Fab Print