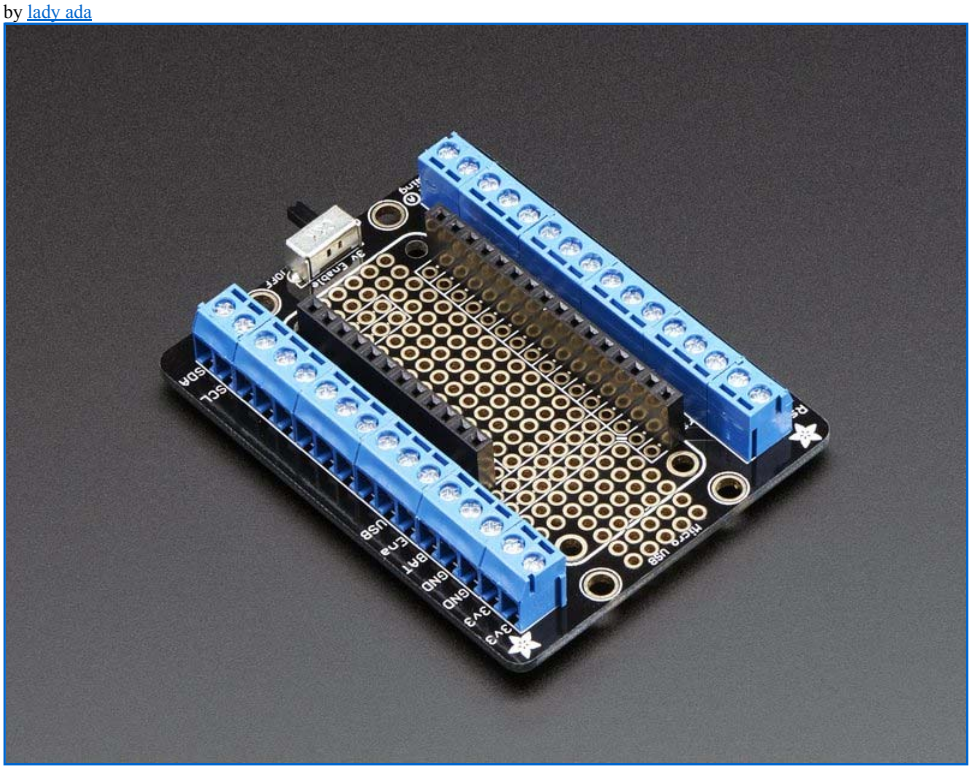
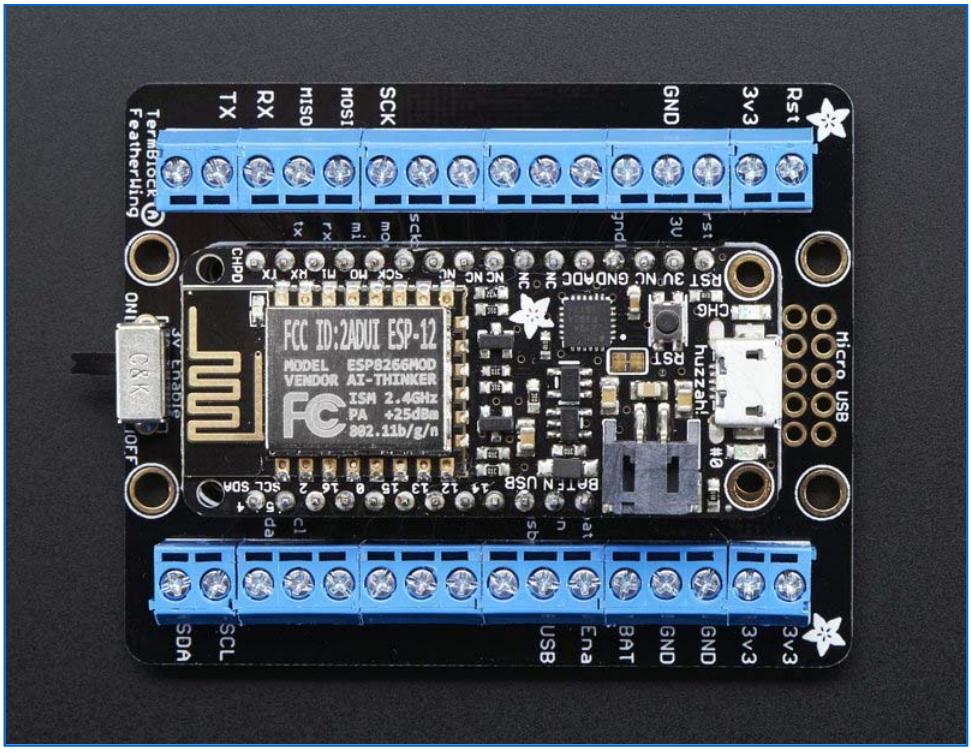
Overview

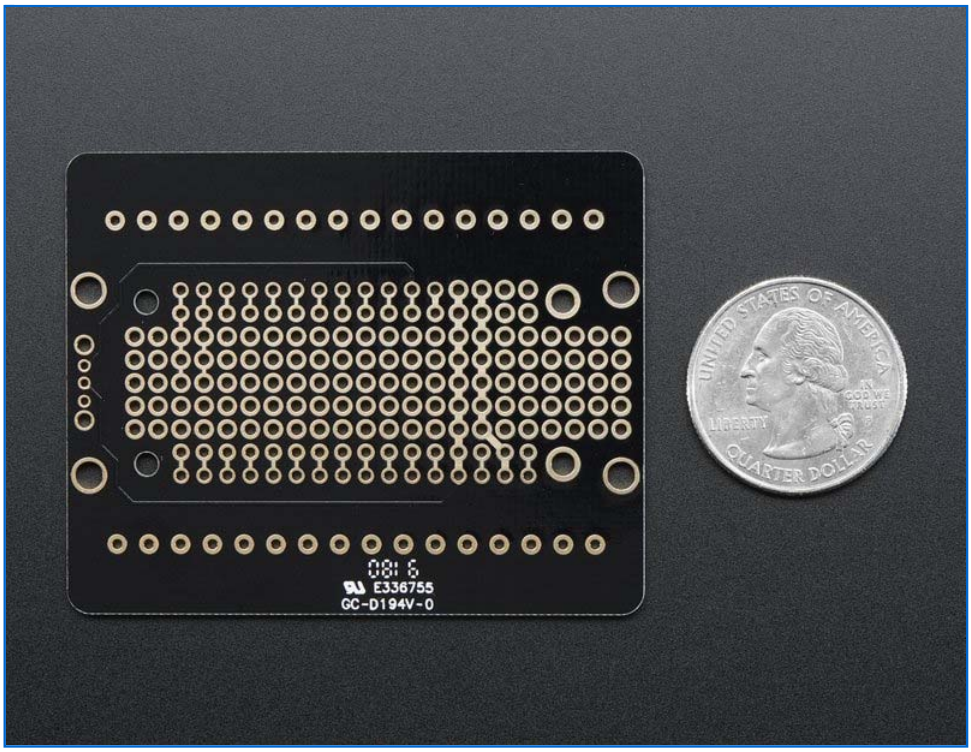
by lady ada



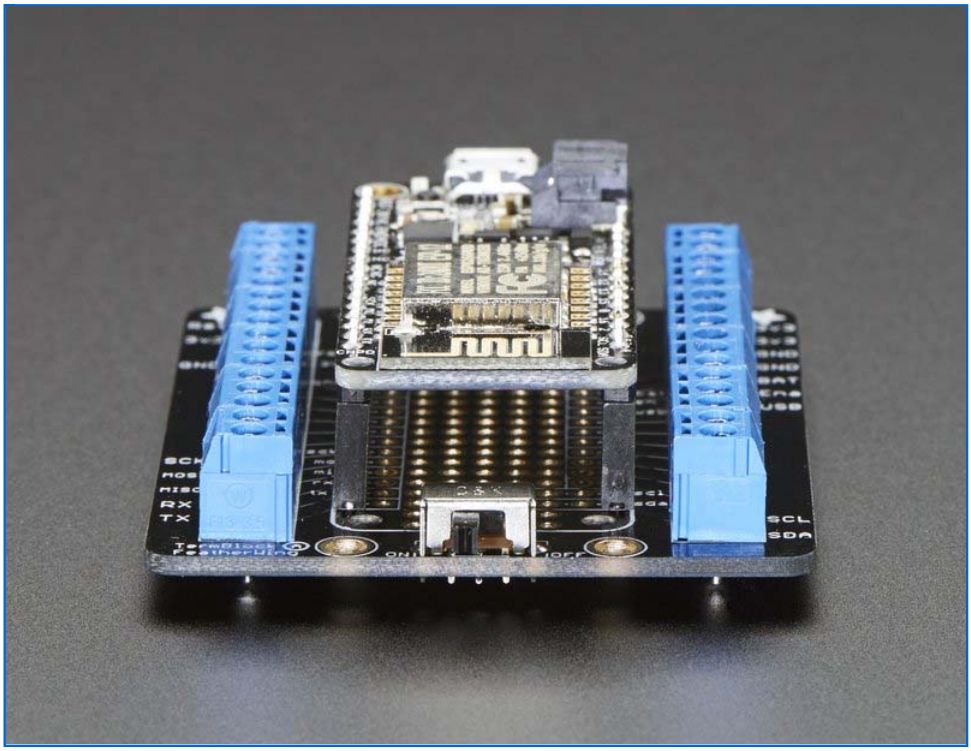
The Terminal Block Breakout FeatherWing kit is like the Golden Eagle of prototyping FeatherWings (eg. majestic, powerful, good-looking). To start, you get a nice prototyping area underneath your Feather, with extra pads for ground, 3.3V and SDA/SCL. Not one to stop there, we expanded the PCB out to 2" x 2.5" with 3.5mm pitch terminal blocks down each side. There's also four mounting holes so you can attach the breakout to your enclosure or project.



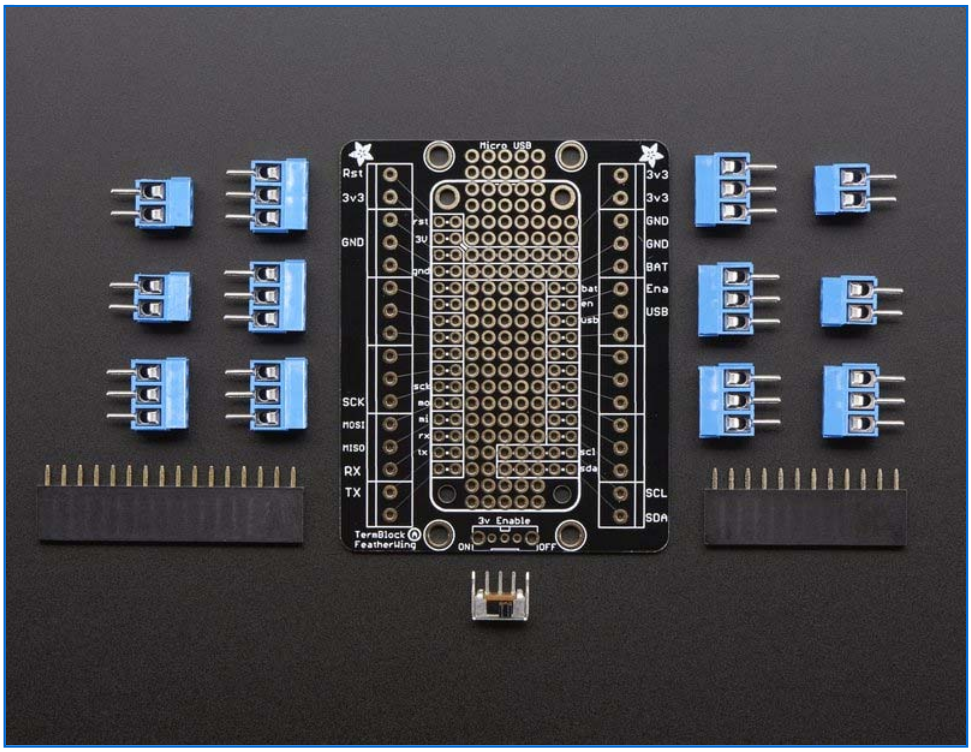
The terminal blocks allow you to connect to any of the external Feather pins, great for wiring temporary or permanent installations. We also give you a few extra terminal block pins for ground and 3.3V connections since those are so useful.



Finally, there's a spot for soldering in a slide switch. This connect the **EN** pin to ground when in the 'off' position, cutting off the 3.3V regulator. Note that the FONA Feather uses both VBat and 3.3V as power supplies so you wont be able to fully turn off the FONA Feather with this switch.

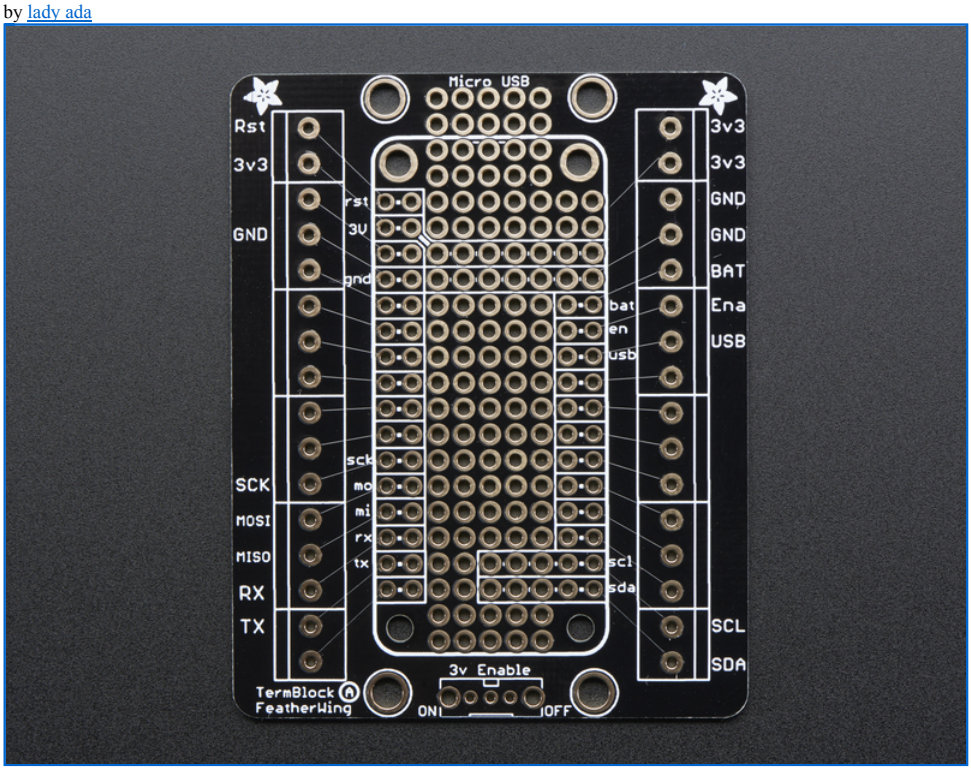


Comes as a kit with a nice PCB, socket headers, terminal blocks, and a slide switch. Soldering is required to assemble the Terminal Block Breakout FeatherWing, but it's not too tough if you've got a soldering iron and some basic hand tools.



Pinouts

by lady ada



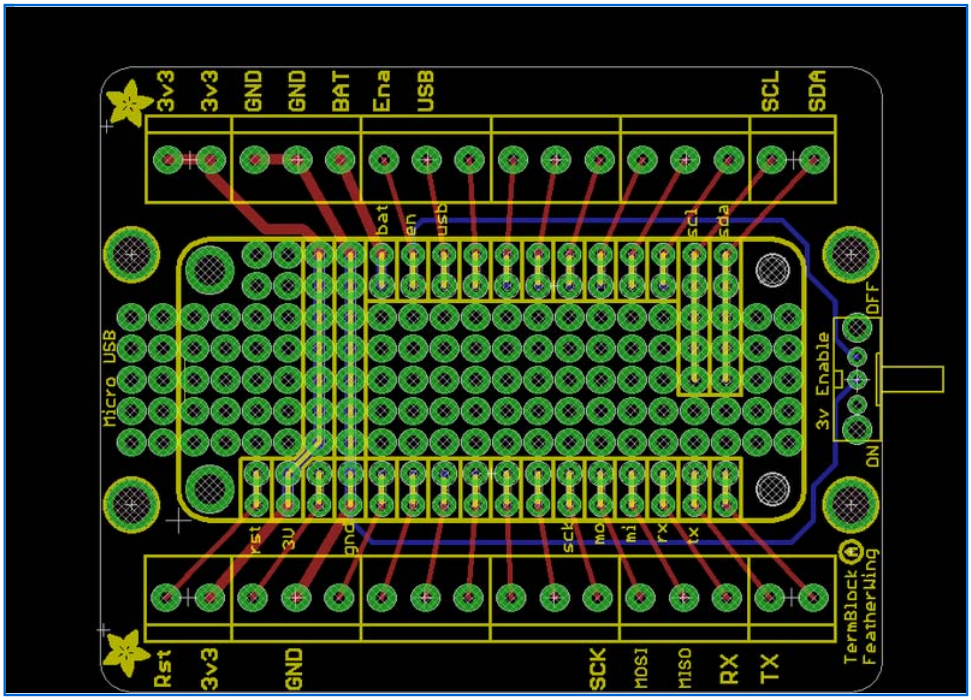
The Terminal Block Featherwing doesn't have any active components. Instead, it just breaks out all the existing connections from a Feather. Note that Feathers use different chipsets so not all pins are labeled on purpose!

The only pins you can depend on are:

- **3.3V power**
- **3.3V enable**
- **VBat power**

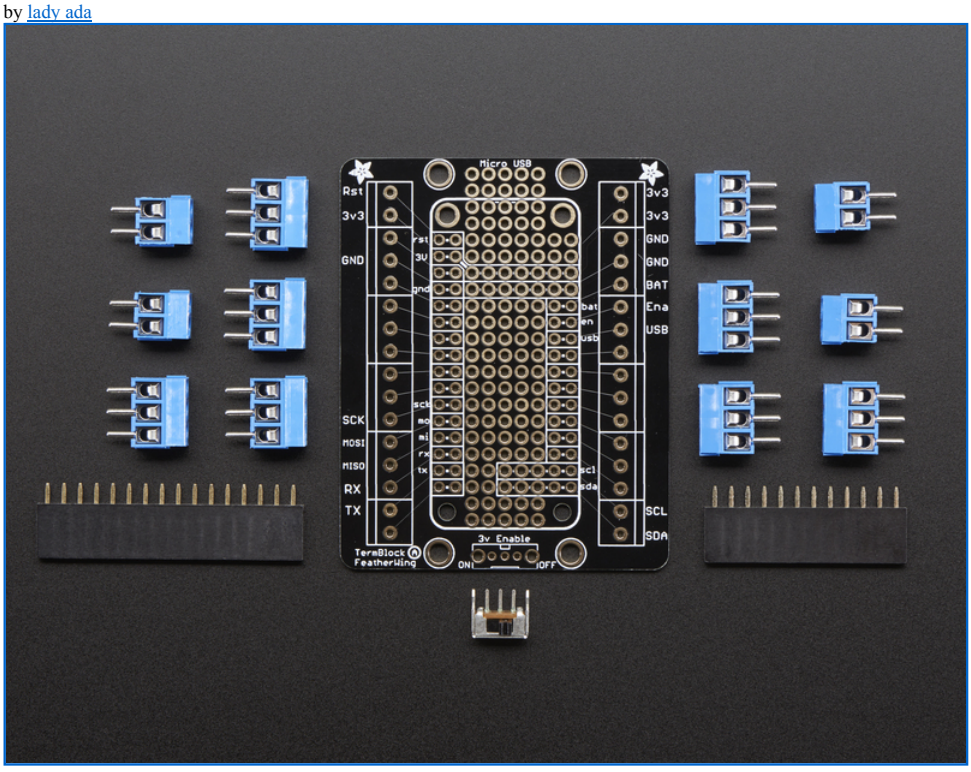
- **USB power**
- **GND**
- **Reset**
- **I2C: SDA & SCL**
- **SPI: MOSI, MISO, SCK**
- **UART: RX & TX**

Check your Feather documentation and product page for details on what other pins are available and what they are connected to

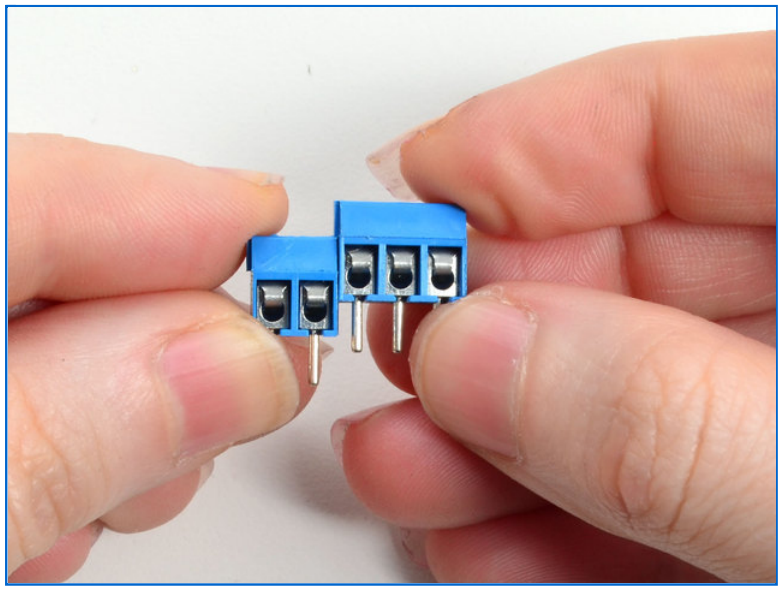


Assembly

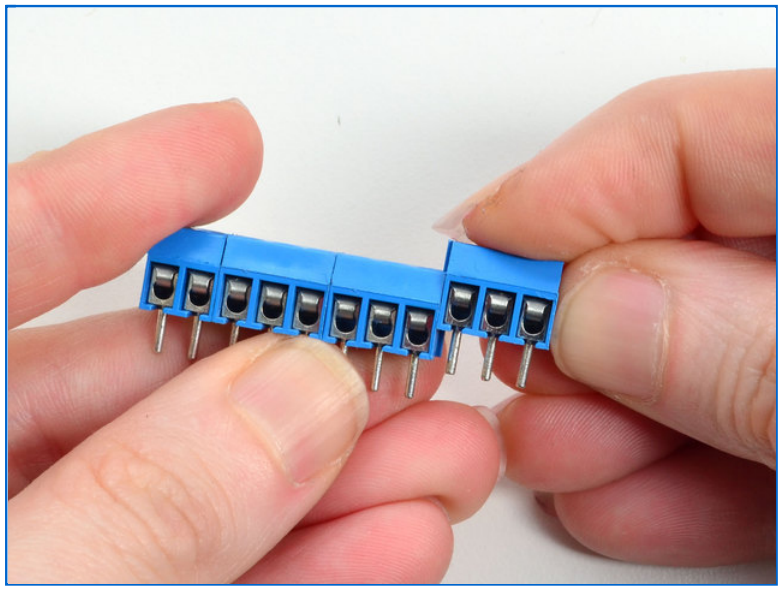
by lady ada



Start by grabbing the blue terminal blocks. Terminal blocks only come in 2 and 3 pin sizes, but can be slid together to form

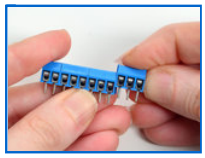
- 

longer strips. Start by connecting a 2 and 3 pin piece together. There's nubs on either side so line those up and you'll be able to slide them together

- 

Keep sliding more 3-pin blocks on until you get a 2-pin block with four 3-pin blocks in the middle and then another 2-pin block at the end

Make two of these long strips

- 
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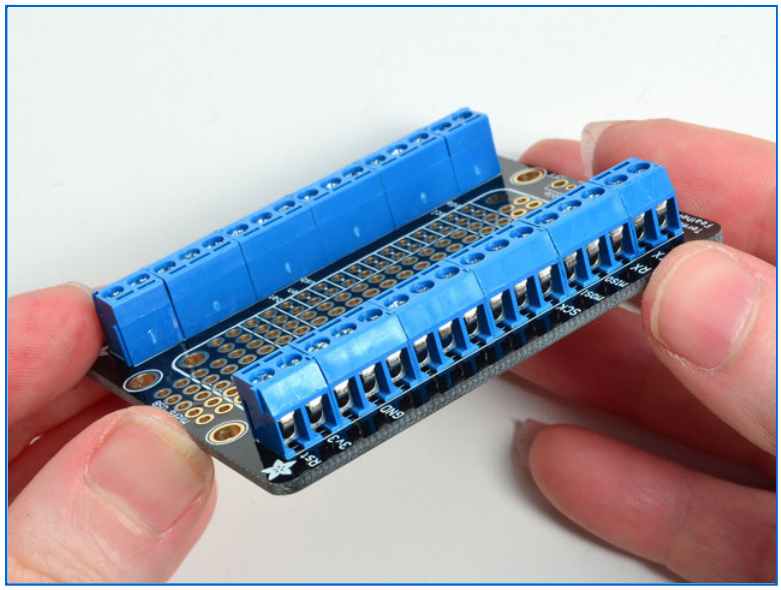
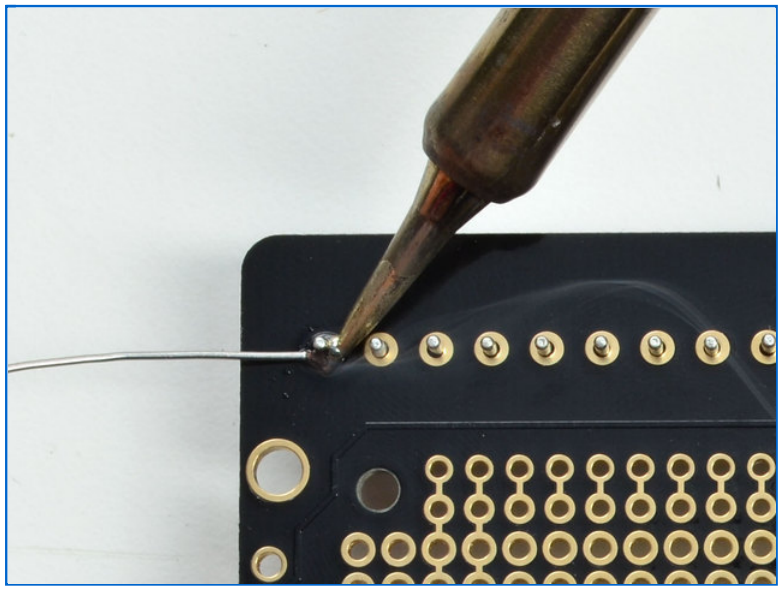
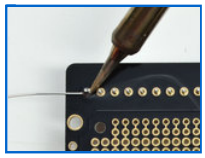
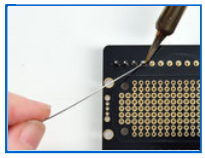
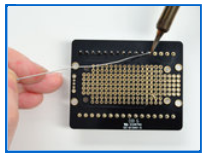
Place the two strips on either side of the breakout PCB with the terminal block holes facing out

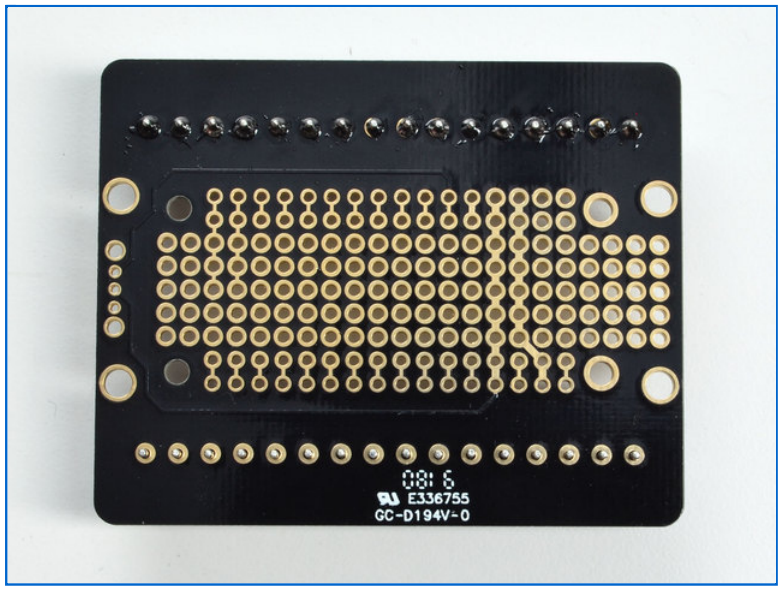
- 
- 

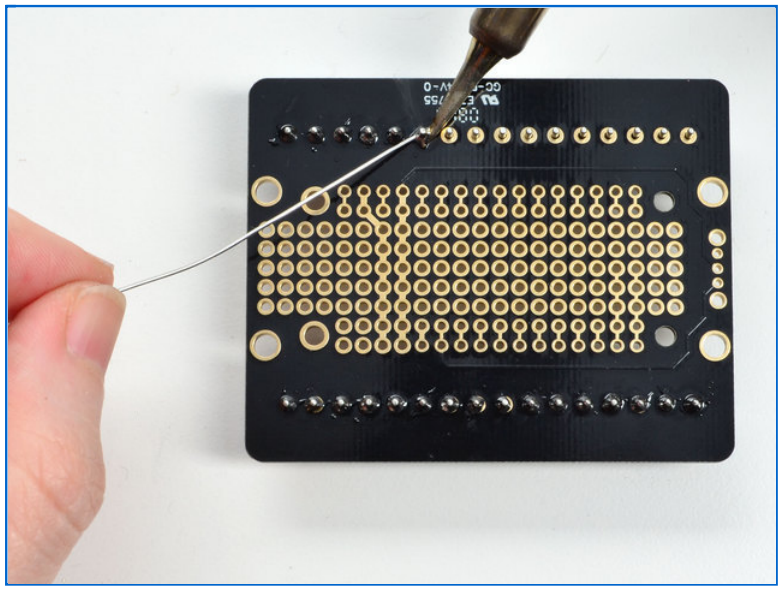
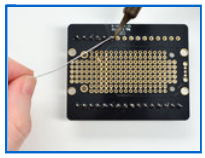
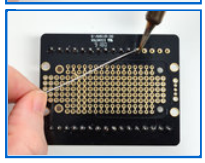
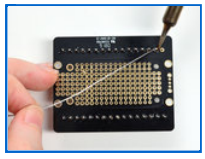
  Flip over the board and solder in all of the terminal block pins with plenty of solder

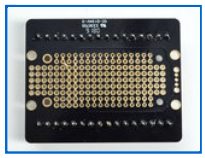
  Be sure to solder all pins for reliable electrical contact.

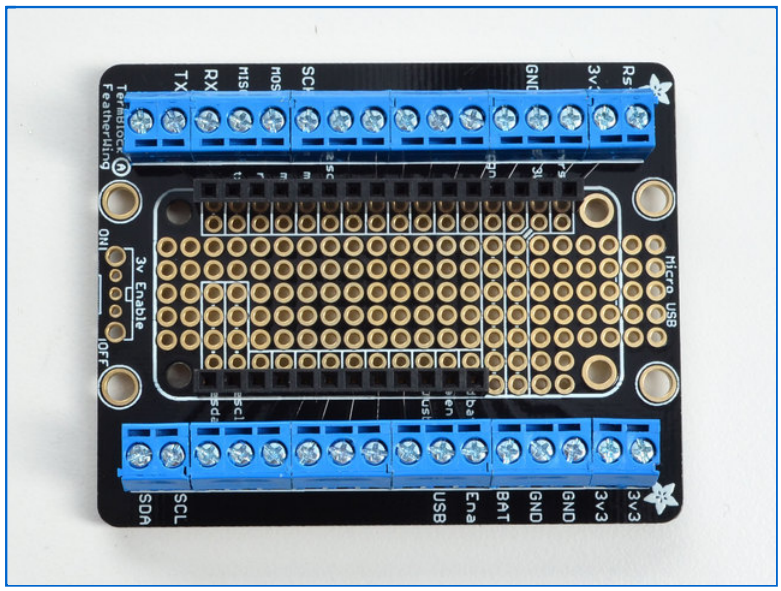
  (For tips on soldering, be sure to check out our Guide to Excellent Soldering).
- 
- 
- 

  Check the first row once its done, to make sure each pin is shiny and completely soldered

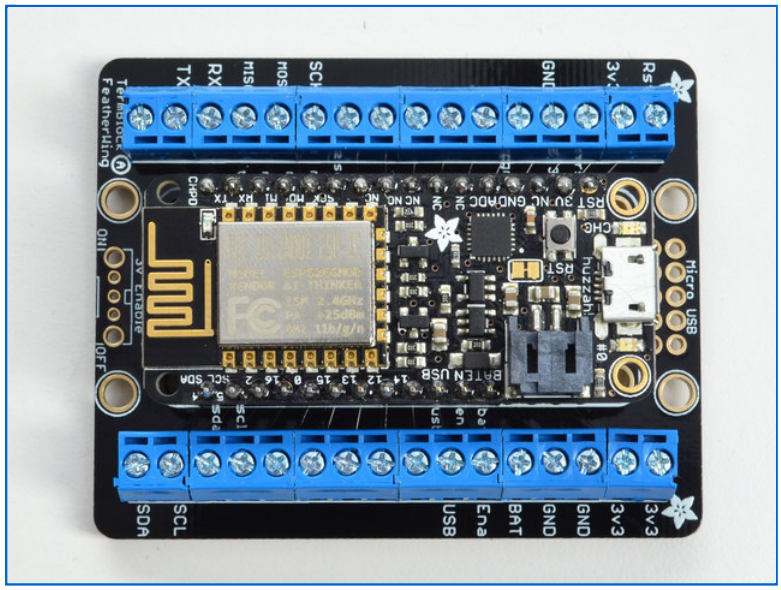
- 

- 
Do the other row of terminal blocks
- 
- 
- 

- 

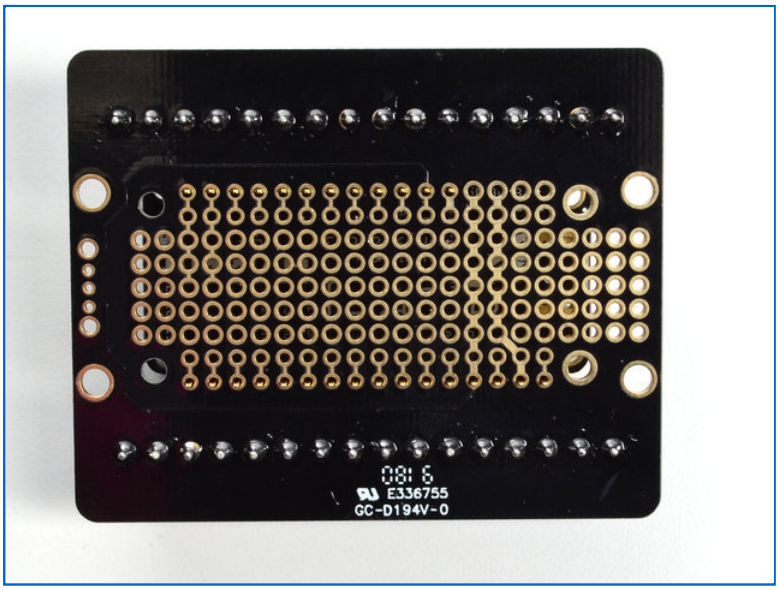
- 

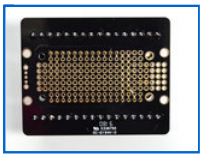
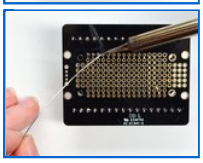
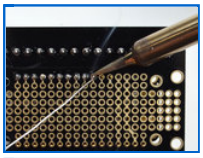
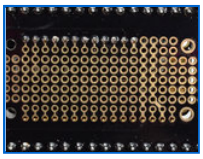
Next up place the 12-pin and 16-pin headers in the center part of the breakout in the outer-most set of holes

- 

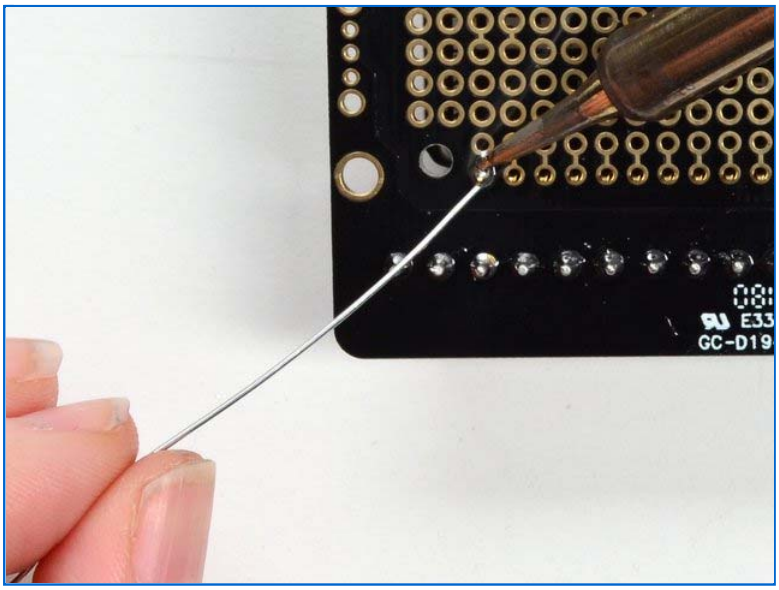
If you have a Feather, plugging it into the headers will keep them nicely aligned so you dont need to tape them in place

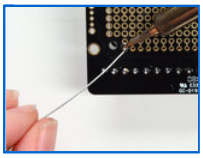
Flip over and solder in one row of the header

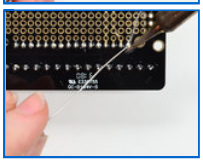
- 

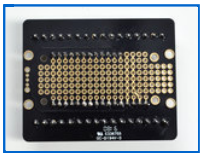
- 
- 
- 
- 

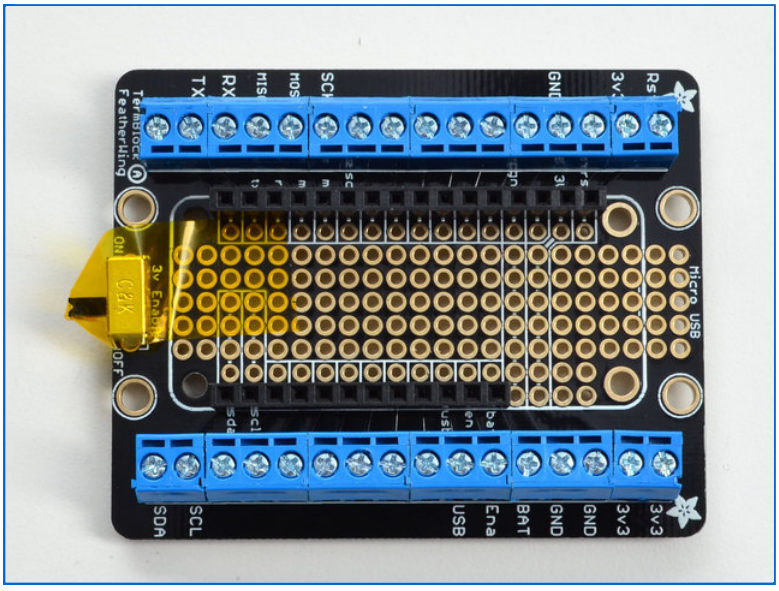
Solder in the other row of header







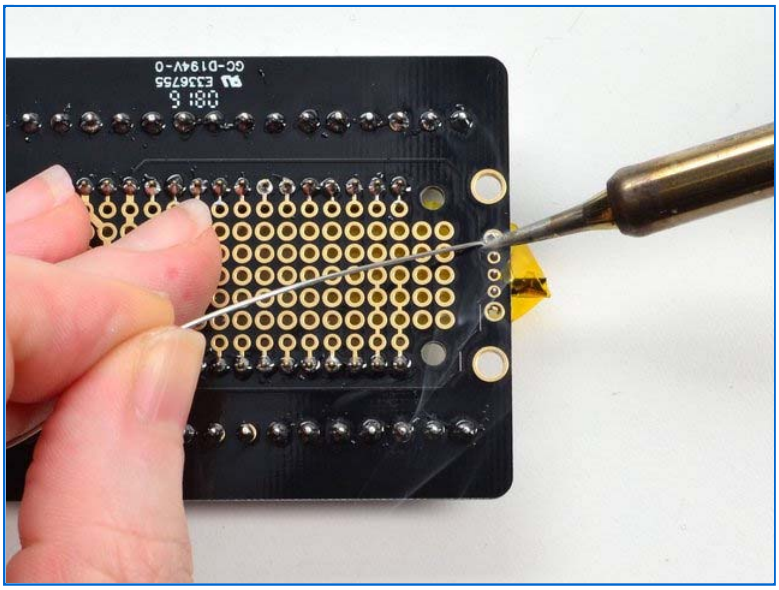
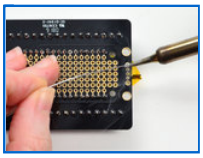
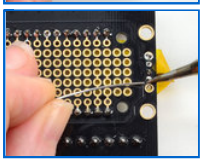
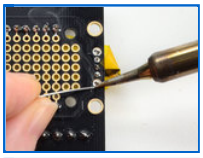
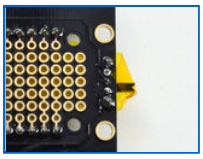


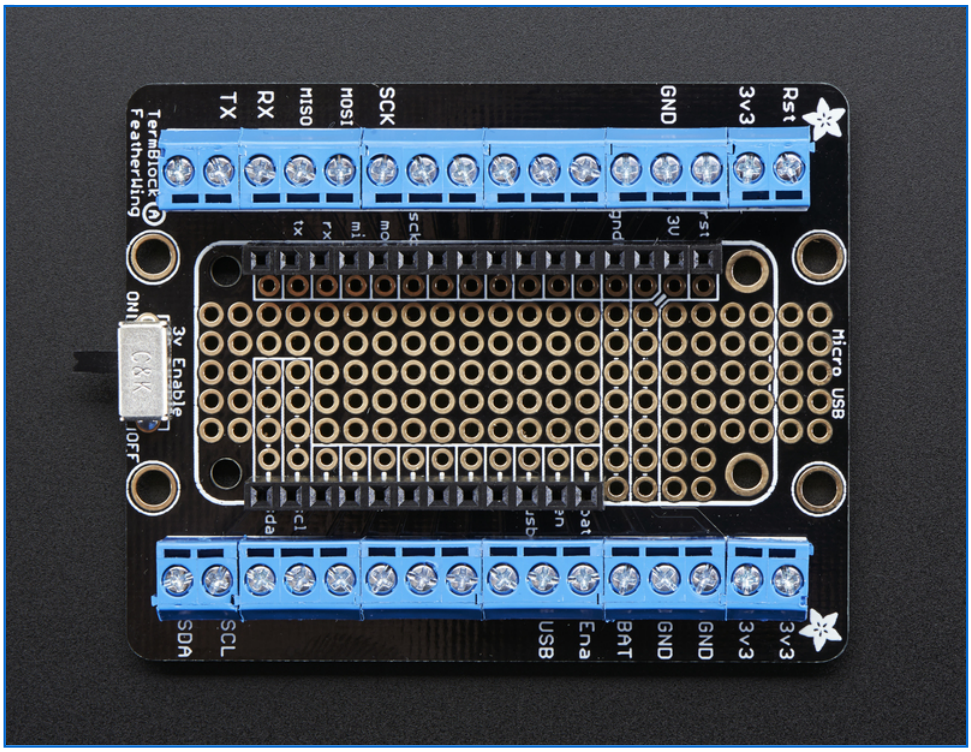


If you'd like to install the slide on/off switch, snap it into place at the end of the PCB and tape it down so it doesn't fall out when soldering

Solder in the two large mechanical points and the three signal pins in the center

That's it! You're done

- 
- 
- 
- 
- 



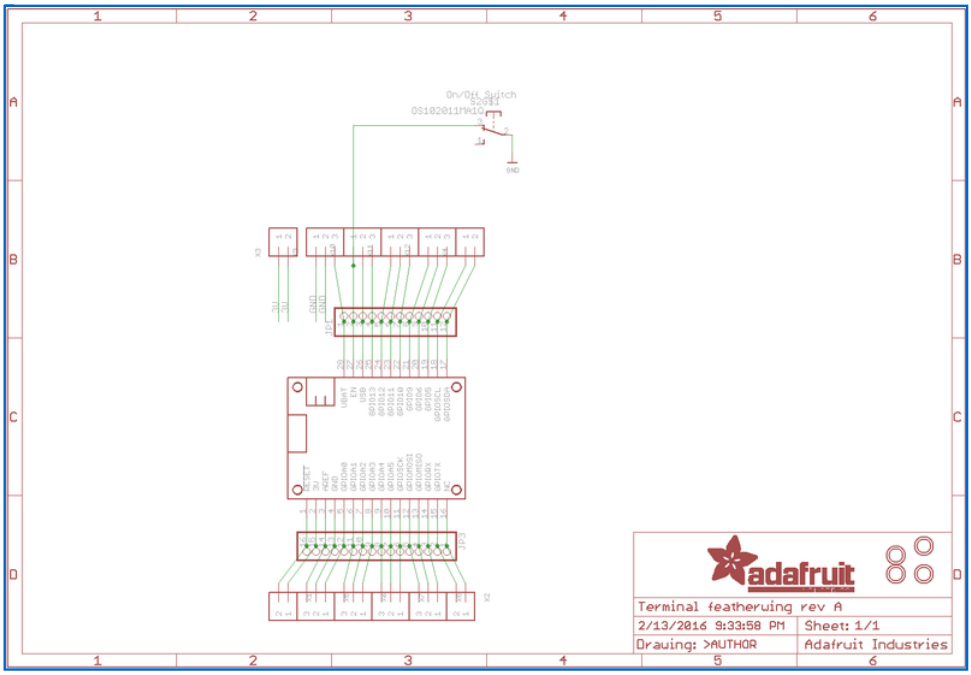
Downloads

by lady ada

Datasheets

OS102011MA1QS1 slide switch

Schematic



Fabrication print

Dimensions in inches