Microduino mCookie-Hub

USER GUIDE

https://eckstein-shop.de/

Content

mCookie-Hub is designed for ease of the connection between Microduino Sensor Series and the core modules on the UPIN27 base board as well as further extended experiment.

Features

- Integrate twelve sensor interfaces;
- Small size with sensor interface integrated on the Upin 27 base board;
- All function pins are extended;
- Prevent reverse sensor connection
- Uses 4 pin, 1.25mm pitch JST headers

Specification

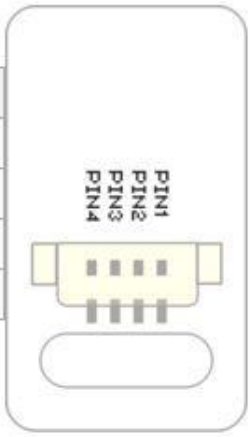
- All mCookie function pins are connected to the base board of the Hub, including digital, analog, serial port and IIC interface.
- Hub's interface pinout per header: GND, VCC, GPIO-A and GPIO-B.
- Two IIC interfaces.
- Uses 4 pin, 1.25mm pitch JST headers / connectors.

Pin Description

Most sensors / trinkets use the first signal (SIGNAL-A) when connecting to the sensor hub.

Hub to Sensor / Trinket Connection Mapping

Hub Header	Sensor / Trinket's Connector
GND (-)	(PIN1) **GND**
VCC (+)	(PIN2) **VCC**
GPIO-A	(PIN3) **SIGNAL-A** -- INPUT / OUTPUT (usually)
GPIO-B	(PIN4) **SIGNAL-B** -- Not connected (usually)

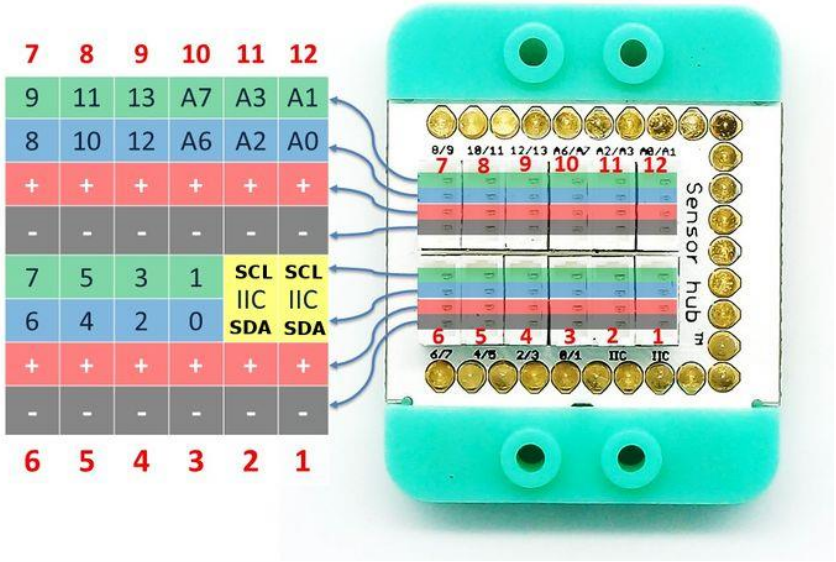


- Therefore, when referencing the sensor / trinket in code. Use the **first** number (**GPIO-A**) on the labeled header. See examples below.
- Some modules use both signals A & B, but they are limited.
- Please refer to the specific sensor / trinket page for more detailed information on a specific one.
- In order to use the second signal. An IO splitter is used to split the signals out into two seperate connectors. More can be read about the IO splitter: **IO Splitter**

- IIC (I2C) uses both signals, but these headers are strictly for IIC communication.

Header & GPIO-A / GPIO-B Mapping

#	Label	GPIO-A	GPIO-B
1	IIC	SDA	SCL
2	IIC		
3	0/1	0	1
4	2/3	2	3
5	4/5	4	5
6	6/7	6	7
7	8/9	8	9
8	10/11	10	11
9	12/13	12	13
10	A6/A7	A6	A7
11	A2/A3	A2	A3
12	A0/A1	A0	A1



Example:

- With a **Light Sensor** that is plugged into the **A2/A3** header. Use **A2** to access the light sensor. (**On the A2/A3 header: GPIO-A=A2; GPIO-B=A3**)
- With a **Single Color LED** that is plugged into the **6/7** header. Use **6** to control the LED. (**On the 6/7 header: GPIO-A=6; GPIO-B=7**)

Each sensor / trinket page has more specific details to which pins are used, but the general rule is use the first signal (**SIGNAL-A**).

Each sensor / trinket may require usage of a specific type of pin, such as an analog pin. This information can be found on the wiki page for that specific sensor / trinket.

Development

- Stack with Microduino core modules and have an external connection with Microduino sensors. Select the right interface according to different sensors.
    - Sensors adopting analog port: Microduino-Sound, Microduino-Light, Microduino-Joystick, Microduino-Moisture, Microduino-Water line
    - mCookie-OLED, Microduino-Temp& Hum (Need to choose IIC interface.)