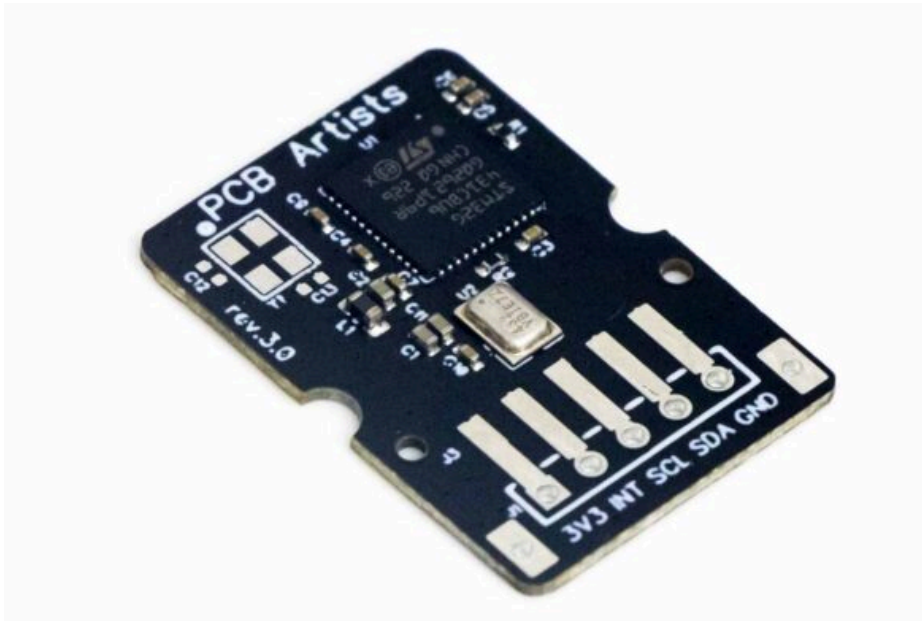


## I2C DECIBEL METER MODULE INTERFACING GUIDE

The PCB Artists decibel meter module is a **low power, tiny, and accurate sound level meter module** that **reads sound pressure level in dB SPL**. You can connect the sensor to your Arduino, ESP32, Raspberry Pi or similar hardware. This guide aims to make the task of decibel meter module interfacing easy for you.



## PCB Artists I2C Sound Level Meter Module

## Module Pinout and Pin Descriptions

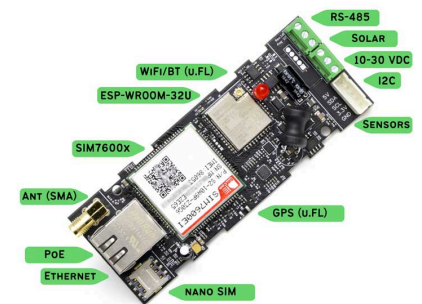
The sound level meter module has 5 pins.

The INT (interrupt) pin is optional and may be left open if unused in your application.

- **3V3**  
*(Power supply input pin)*  
Source clean 3.3V regulated power supply to this pin. The module typically consumes 5mA at 3.3V.
- **INT**  
*(Open-drain interrupt pin, active low)*  
The interrupt function is disabled by default. If enabled, INT pin goes low when an interrupt is pending.
- **SCL**  
*(Open-drain I2C SCL pin)*  
Standard I2C bus SCL line, recommended pull-up is at least 10K.
- **SDA**  
*(Open-drain I2C SDA pin)*  
Standard I2C bus SDA line, recommended pull-up is at least 10K
- **GND**  
*(Ground pin)*  
Module ground, should be connected directly to the ground of system power source or battery if possible.

Type and hit enter...

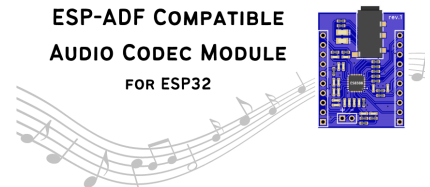
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## Module Connector Options

The sound level meter module can be configured to have 3 types of connectors.

- **JST-XH (vertical)**  
If your application needs to have the decibel sensor module glued to an enclosure where the wires must be secured reliably, this option works best.
- **JST-XH (horizontal)**  
If your application needs the module to be stuck to an enclosure but has limited room above the module, use this connector configuration.
- **0.1" header**  
This is best suited for **prototyping on breadboards** and initial evaluation.

## Decibel meter module interfacing with Raspberry Pi

The standard 40-pin Raspberry Pi GPIO header contains a 3.3V power output, ground, SCL and SDA. These 4 pins are all you need to use to connect the sound level meter module to a Raspberry Pi.

Here are details on [decibel meter module interfacing with Raspberry Pi](#) and sample code that you can use to test the sensor.

## Frequently Asked Questions (FAQs)

### — Can I connect the sound sensor module with long wires?

In general, it is recommended to keep the I2C wires **as short as possible**. If the I2C cable length is longer than 30 cm, use **high quality cables** that are tied together. Pull-up resistance used should be **4.7K or lower** and I2C clock speed should be reduced to **less than 10kHz for long wires**.

### + How can I get accurate decibel readings with low noise?

### + Can I power the module separately instead of using the host PCB (Arduino, etc)?

### + Can I use the decibel sensor with 1.8V systems?

### + How can I use multiple sound sensor modules on one I2C bus?



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## Change Log

- **5 May 2023**  
– Initial release

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