



## SparkFun Grid-EYE Infrared Array Breakout - AMG8833 (Qwiic)

SEN-14607 ROHS Open Source Hardware

Get ready to be able to see like the Predator! The SparkFun Grid-EYE Infrared Array Breakout board is an 8x8 thermopile array, meaning you have a square array of 64 pixels capable of independent temperature detection. It's like having a thermal camera, just in a lower resolution. To make it even easier to get your low-resolution infrared image, all communication is enacted exclusively via I<sup>2</sup>C, utilizing our handy Qwiic system. However, we still have broken out 0.1"-spaced pins in case you prefer to use a breadboard.

The on-board AMG8833 Grid-EYE possesses an accuracy rate of  $\pm 2.5^{\circ}\text{C}$  ( $\pm 4.5^{\circ}\text{F}$ ) with a temperature range of  $0^{\circ}\text{C}$  to  $80^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  to  $176^{\circ}\text{F}$ ). Additionally, this IR "camera" board can detect human body heat at about 7 meters or less (that's about 23 feet), and has a frame rate of 10 frames a second to one frame a second. It is important to point out that while this version of the Grid-EYE is the high performance type with a high gain, it is only 3.3V tolerant. IE: Don't try to operate it at 5V (you won't have a very good time).

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The SparkFun Qwiic connect system is an ecosystem of I<sup>2</sup>C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can't hook it up wrong.

## FEATURES

- Operating Voltage(Startup): 1.6V - 3.6V
- Operating Voltage(Timekeeping): 1.5V - 3.6V
- Current Consumption: 4.5 mA
- 8x8 Thermopile Array
- Temperature Range: 0°C to 80°C (32°F to 176°F)
- Accuracy Rate: ±2.5°C (±4.5°F)
- Human Detection Distance: 7m or less (22.966ft)
- I<sup>2</sup>C Address: 0x69 (open jumper, default) or 0x68 (closed jumper)
- 2x Qwiic Connection Ports

