SparkFun IR Array Breakout - 110 Degree FOV, MLX90640 (Qwiic)

SEN-14843

It's time to say hip hip array for this IR Breakout! The MLX90640 SparkFun IR Array Breakout is equipped with a 32x24 array of thermopile sensors creating, in essence, a low resolution thermal imaging camera. With this breakout you can detect surface temperatures from many feet away with an accuracy of ±1.5°C (best case). To make it even easier to get your low-resolution infrared image, all communication is enacted exclusively via I²C, utilizing our handy Qwiic system. However, we still have broken out 0.1"-spaced pins in case you prefer to use a breadboard.

This specific IR Array Breakout features a 110°x75° field of view with a temperature measurement range of -40°C-300°C. The MLX90640 IR Array has pull up resistors attached to the I²C bus; both can be removed by cutting the traces on the corresponding jumpers on the back of the board. Please be aware that the MLX90640 requires complex calculations by the host platform so a regular **Arduino Uno (or equivalent) doesn't have enough RAM or flash to complete the complex** computations required to turn the raw pixel data into temperature data. You will need a microcontroller with 20,000 bytes or more of RAM. To achieve this, we recommend a Teensy 3.1 or above.

The SparkFun Qwiic connect system is an ecosystem of I²C 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: 3V-3.6V
- Current Consumption: ~18mA
- Field of View: 110°x75°
- Measurement Range: -40°C-300°C
- Resolution: ±1.5°C
- Refresh Rate: 0.5Hz-64Hz
- I²C Address: 0x33
- 2x Qwiic Connection Ports