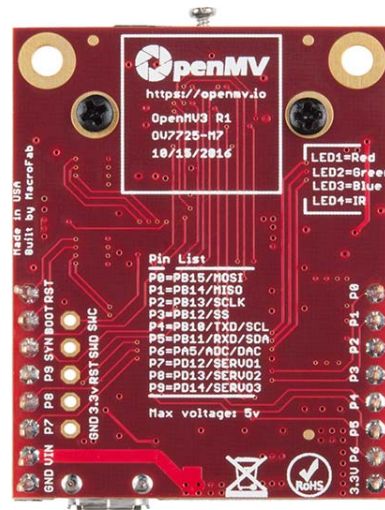# OpenMV M7 Camera

SEN-14186

Description: The OpenMV M7 Camera is a small, low-power microcontroller board that allows you to easily implement applications using machine vision in the real world. The best part about the OpenMV is that it is not only capable of image capture, but also face detection, color tracking, QR code reading and plenty more. If you are looking for an economical camera module boasting multiple high-end features, look no further than the OpenMV M7!

The OpenMV can be programmed in high-level Python scripts (courtesy of the MicroPython Operating System) instead of C/C++. This makes it easier to deal with the complex outputs of machine vision algorithms and working with high-level data structures. You still have total control over your OpenMV M7 and its I/O pins in Python. You can easily trigger taking pictures and video on external events or execute machine vision algorithms to figure out how to control your I/O pins.

Features:

- The STM32F765VI ARM Cortex M7 processor running at 216MHz with 512KB of RAM and 2MB of flash. All I/O pins output 3.3V and are 5V tolerant.
- A full-speed USB (12Mbs) interface to your computer; your OpenMV Cam will appear as a virtual COM port and a USB flash drive when plugged in.
- A µSD card socket capable of 100Mbs reads/writes, which allows your OpenMV Cam to record video and easily pull machine vision assets off of the µSD card.
- A SPI Bus that can run up to 54Mbs, allowing you to easily stream image data off the system to either the LCD shield, the WiFi shield or another microcontroller.
- An I²C Bus, CAN Bus and Asynchronous Serial Bus (TX/RX) for interfacing with other microcontrollers and sensors.
- A 12-bit ADC and a 12-bit DAC.
- Three I/O pins for servo control.
- Interrupts and PWM on all I/O pins (there are 10 I/O pins on the board).
- RGB LED and two high-power 850nm IR LEDs.
- The OV7725 image sensor is capable of taking 640x480 8-bit grayscale images or 320x240 16-bit RGB565 images at 30 FPS. Your OpenMV Cam comes with a 2.8mm lens on a standard M12 lens mount. If you want to use more specialized lenses with your OpenMV Cam, you can easily buy and attach them yourself.