

## SEEED-102991354

### OpenMV Cam H7 Plus

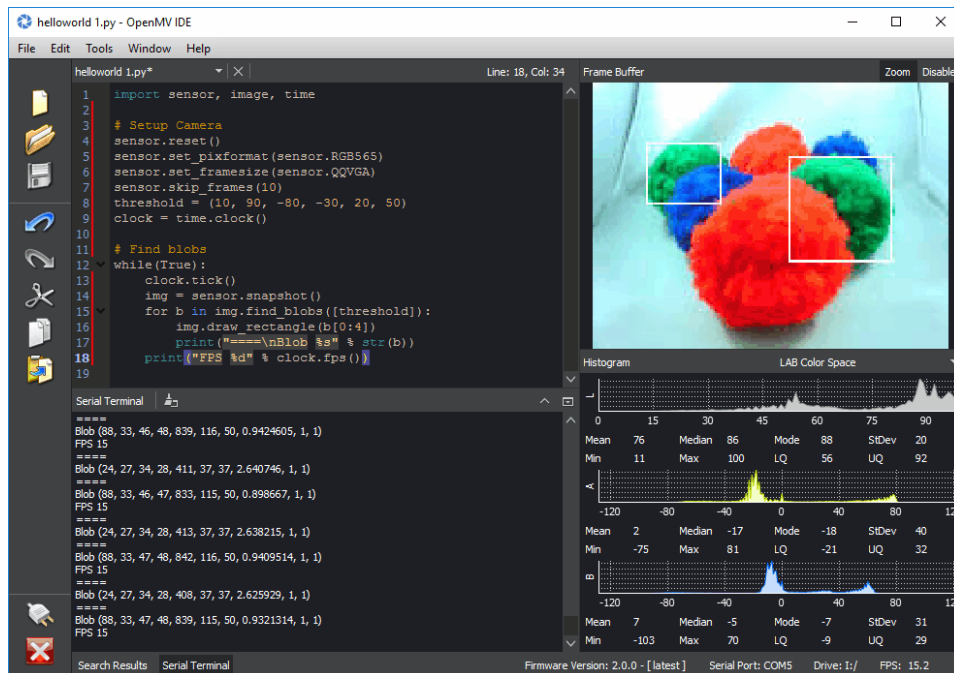


## PRODUCT DETAILS

### Description

The OpenMV Cam is a small, low power, microcontroller board featuring an STM32H743II Arm® Cortex® M7 processor running at 480MHz, which allows you to easily implement applications using machine vision in the real world. It is equipped with 32MB of SDRAM, 1MB of RAM and 2MB of flash. You program the OpenMV Cam 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. But you still have total control over your OpenMV Cam and its I/O pins in Python. You can easily trigger taking pictures and videos on external events or execute machine vision algorithms to figure out how to control your I/O pins.

All this programming can be done on the OpenMV IDE which makes it easy to program your OpenMV Cam. OpenMV IDE features a modern Python multi-file text editor, a slick serial terminal, and a frame buffer to visualize what your OpenMV Cam sees in real-time.



The OpenMV Cam comes with an OV5640 image sensor is capable of taking 2592x1944 (5MP) images. Most simple algorithms will run at above 30 FPS on QVGA (320x240) resolutions and below. Your image sensor comes with a 2.8mm lens on a standard M12 lens mount.

Furthermore, it has a removable camera module system allowing it to interface with different sensors. Different camera modules such as FLIR Lepton Adapter Module and Global Shutter Camera Module can be used for more advanced projects. Also, if you want to use more specialized lenses with your image sensor you can easily attach them yourself.

This also supports the addition of different shields such as Proto Shield, LCD Shield, Wi-Fi Shield, Servo Shield and Motor Shield to further expand your projects.

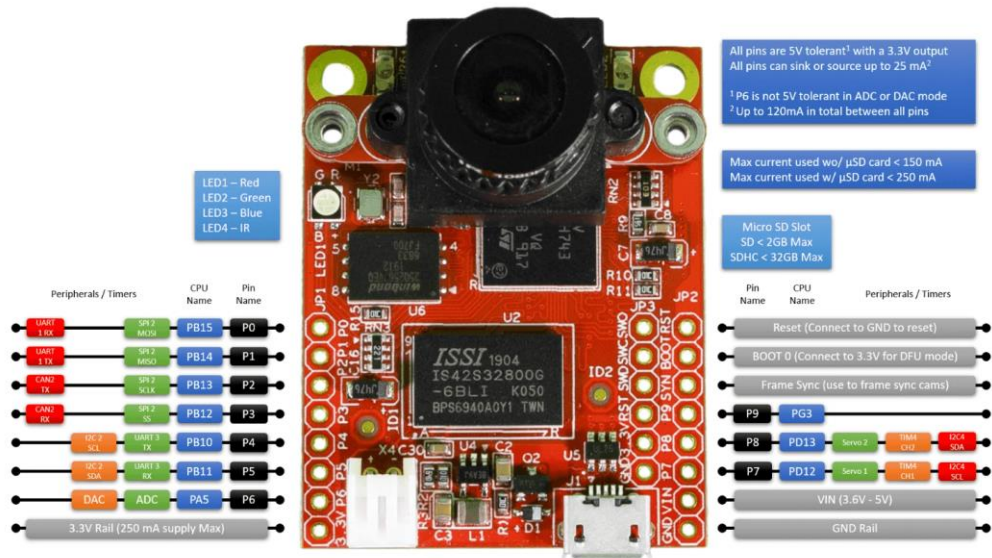
## Features

- STM32H743II processor to realize machine vision applications
- Compact size for easy deployment in robotics projects
- Low power consumption for prolonged use
- Micropython support with easy-to-use OpenMV IDE for quick and convenient project integration
- High resolution OV5640 image sensor (2592x1944/ 5MP) for better image processing
- Removable camera module system to realize advanced applications
- Support for various shields to further expand your projects
- Full speed USB (12Mbs) interface with your computer - Your OpenMV Cam will appear as a Virtual COM Port and a USB Flash Drive when plugged in.
- A  $\mu$ SD Card socket capable of 100Mbs reads/writes which allows your OpenMV Cam to record video and easy pull machine vision assets off of the  $\mu$ SD card.
- An SPI bus that can run up to 100Mbs allowing you to easily stream image data off the system to either the LCD Shield, the Wi-Fi Shield, or another microcontroller.
- An I2C Bus, CAN Bus, and an Asynchronous Serial Bus (TX/RX) for interfacing with other microcontrollers and sensors.
- Two I/O pins with support for servo control in robotics projects
- Interrupts and PWM on all I/O pins with 10 I/O pins on the board for project expandability
- An RGB LED for status indication and two high power 850nm IR LEDs.

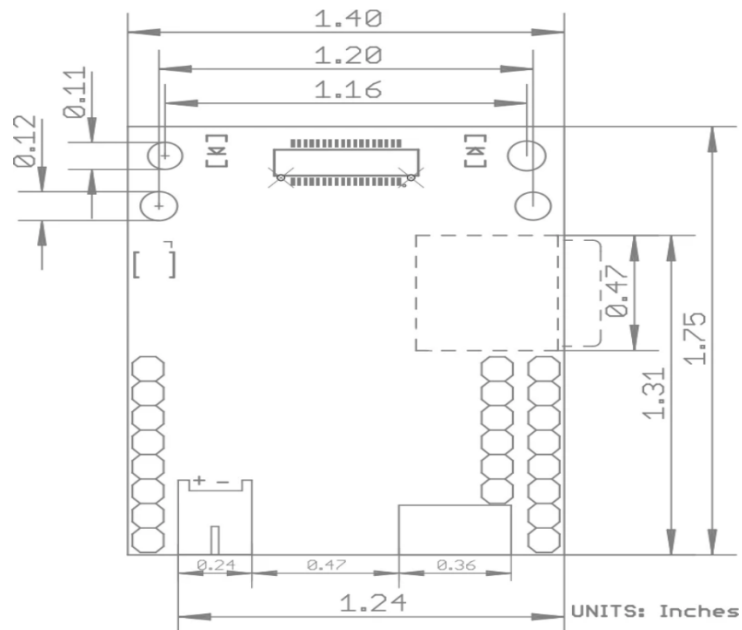
## Comparison Between The OpenMV Cam Family

We have released two different OpenMV Cam products in the past and the table below illustrates the differences between them along with the newly released OpenMV Cam H7 Plus.

# Pinout Diagram



# Dimensions



## Parts List

- 1 x OpenMV Cam H7 Plus
- 2 x 8-Pin Female Headers
- 1 x Micro-USB Cable
- 1 x Hole Plate
- 1 x Proto PCB Board
- 1 x Right Angle Fixing Plate
- 4 x Supporting Screws
- 4 x Nuts
- 4 x Gaskets

