

Motionarium Controller™



Specifications

Size	100mm x 70mm x 34 mm (35.5mm camera top included)
Weight	25gr (packaging) + 43gr (processor) + 3g (camera) = 71gr
CPU	ARM Cortex-A53 1.2GHz
Power Supply	AC 5V 2.5A via Micro USB connector (power supply is not included)
Data Connection	USB 2.0 (packaged with USB 2/3 hybrid cable, but can be used with any certified USB standard cables with the Hi-Speed USB 2.0 logo featured on the packaging)
Mounting	Should be placed on the desk with camera facing the ceiling and the triangle on the top of the packaging showing "Up" according to you (your hand)
Interaction Zone	Minimum 30cm – Maximum 60cm distance from camera (depth) 19cm boundary from camera at 30cm distance
Camera	One camera with OVA5647 sensor
Camera Interface	Experimental Universal Video Class (UVC) release provides access to low-level controls such as LED brightness, gamma, exposure, gain, resolution, etc.; examples in C, Python, and Matlab, as well as OpenCV binding
LED	At top right corner of the camera there is one LED which is boot indicator. Whenever the LED is lightened up constantly, the device is up and ready to use.
Construction	PLA and Acrylic
Ambient Operating Temperature	0 to 45 °C (RPI 3 Operating Temperature)
CPU Temperature at Full Load (Ambient Temperature of 33 °C)	Min: 54 °C – Max: 72 °C – Average: 67.8
FPS (Frame Per Second)	(Camera Capture) 32 FPS (Capture and Run ML Model) Min: 1.5 – Max: 4.8 – Average: 3.8
Boot Time	(Approximately) 51secs
Latency	(Approximately) 2 – 5 secs
Minimum System Requirements	Windows 7, 8, 8.1, 10, 11 – MacOS X 10.7 – Linux distros with GNU Gnome Desktop.

Plots

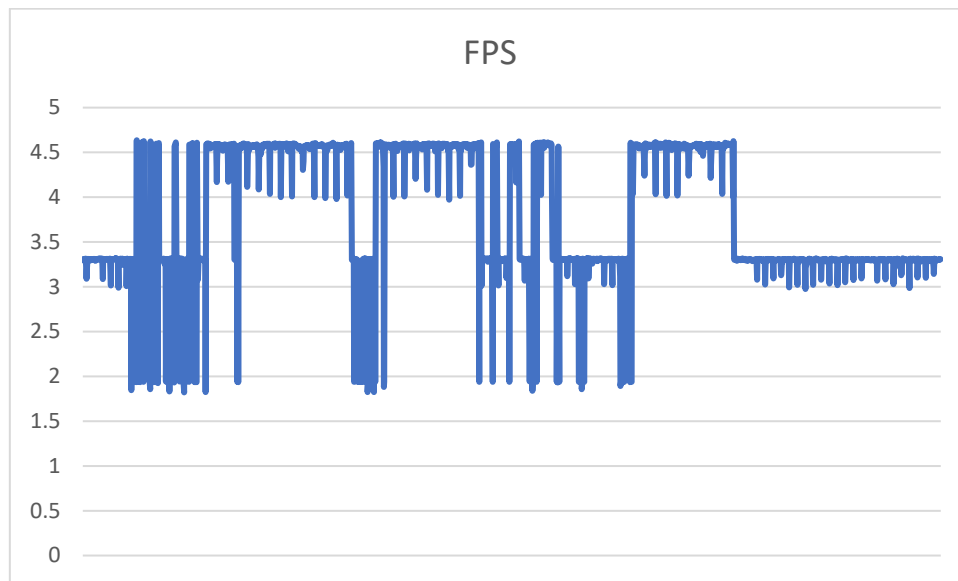


Figure 1 - Frame per Second of the device when it is capturing the image and run the Machine Learning model on it.

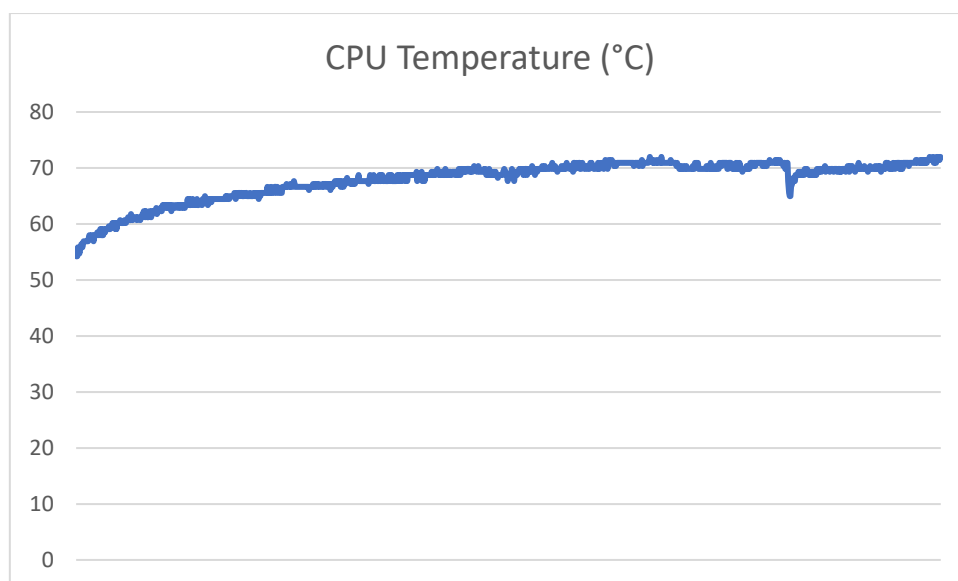


Figure 2 - CPU Temperature (°C) at 100% Load.

Source Code



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The source code is available via [GitHub](#) under MIT License:

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