

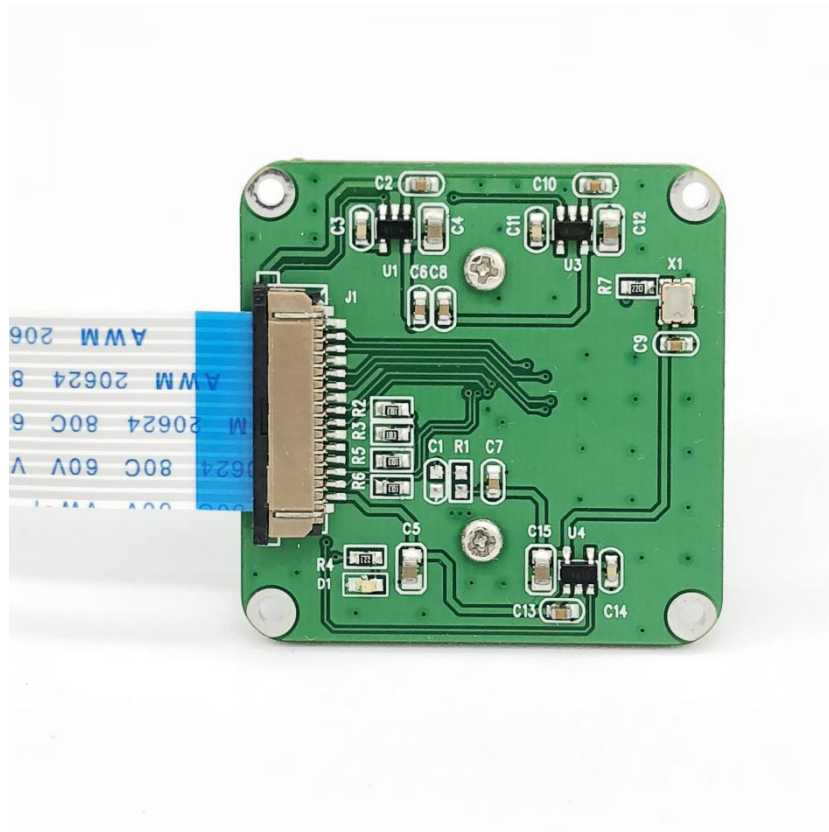
CAM-OV5647 User Manual

CAM-OV5647 is a low-cost Fisheye Lens, wider Field View, Camera module, designed for Raspberry Pi3 B+/PI3/PI2/PI B+/PI A/PI ZERO

1. Overview

The **CAM-OV5647** has a 5 MPixel sensor, and connects via a ribbon cable to the CSI connector on the Raspberry Pi. The video and still image quality is better than a USB webcam of similar price. The board is the same 39 x 39 mm size.





2. Key Features

- Raspberry Pi Camera, supports all revisions of the Pi
- Fisheye Lens, offers wider field of view

(Remark: Lens can be replaced According to different application scenarios)

LENS Features

FOCAL LENGTH: 2.8

LENS DIAMETER: 12mm

Lens Seat Spacing: 22mm

F/NO : 2.2

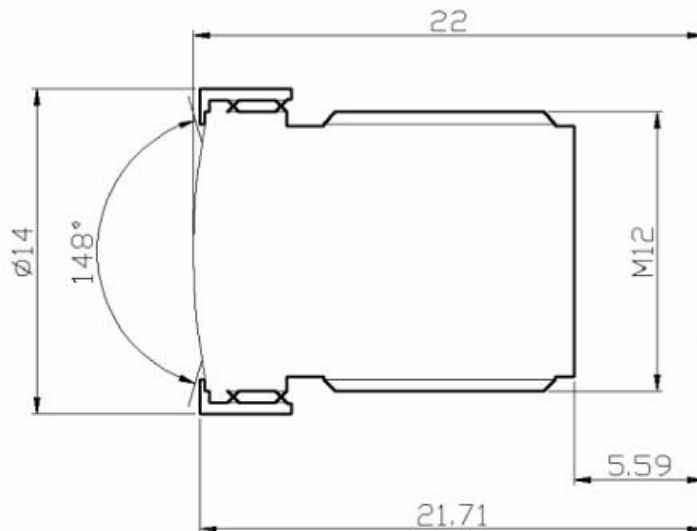
FIELD OFVIEW: D=148° H=118°

TV DISTORTION: <-17%

Element: 4G+IR

CRA: 10°

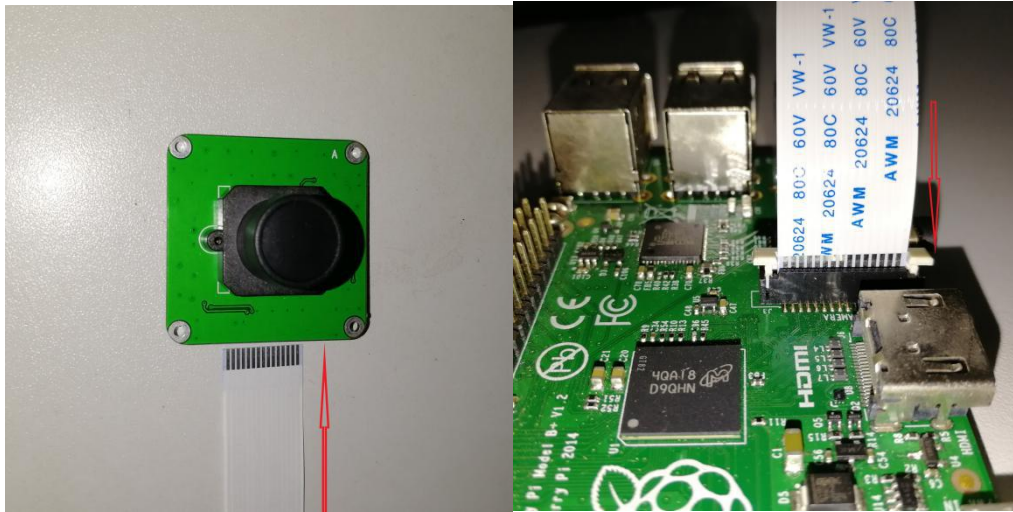
Relative Illumination: 52%



- Sensor type: OmniVision OV5647^[6] Color CMOS QSXGA (5-megapixel)
- Sensor size: 3.67 x 2.74 mm (1/4" format)
- Pixel Count: 2592 x 1944
- Pixel Size: 1.4 x 1.4 um
- Video: 1080p at 30 fps with codec H.264 (AVC)
- Up to 90 fps Video at VGA
- Board size: 39 x 39 mm (not including flex cable)
- Mounting Holes: 4x D=2.20 mm

3. Hardware connection

Please note that camera modules are static-sensitive. Earth yourself prior to handling the PCB: a sink tap/faucet or similar should suffice if you don't have an earthing strap. The camera board attaches to the Raspberry Pi via a 15-way ribbon cable. There are only two connections to make: the ribbon cable need to be attached to the camera PCB and the Raspberry Pi itself. You need to get it the right way round, or the camera will not work. On the camera PCB, the blue backing on the cable should be facing away from the PCB, and on the Raspberry Pi it should be facing towards the Ethernet connection (or where the Ethernet connector would be if you are using a model A). Although the connectors on the PCB and the Pi are different, they work in a similar way. On the Raspberry Pi, pull up the tabs on each end of the connector. It should slide up easily, and be able to pivot around slightly. Fully insert the ribbon cable into the slot, ensuring it is straight, then gently press down the tabs to clip it into place. The camera PCB itself also requires you to pull the tabs away from the board, gently insert the cable, then push the tabs back. The PCB connector is a little more awkward than the one on the Pi itself.



4. Software Installation



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Execute the following instructions on the command line to download and install the latest kernel, GPU firmware and applications. You will need an internet connection for this to work correctly.

```
sudo apt-get update
```

```
sudo apt-get upgrade
```

Now you need to enable camera support, using the raspiconfig program you will have used when you first set up your Raspberry Pi.

```
sudo raspi-config
```

Use the cursor keys to move to the camera option and select enable. On exiting raspiconfig it will ask to reboot. The enable option will ensure that on reboot the correct GPU firmware will be running (with the camera driver and tuning), and the GPU memory split is sufficient to allow the camera to acquire enough memory to run correctly. To test that the system is installed and working, try the following command:

```
raspistill -v -o test.jpg
```

The display should show a 5-second preview from the camera and then take a picture, saved to the file test.jpg, while displaying various informational messages.

For More firmware and technic support:

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