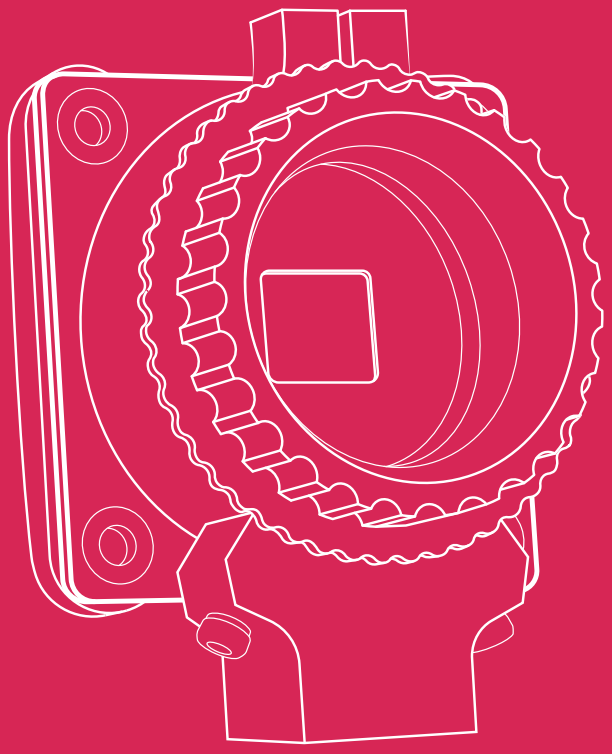
Raspberry Pi Global Shutter Camera

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Raspberry Pi Ltd

Overview



The Raspberry Pi Global Shutter Camera is a specialised 1.6-megapixel camera from Raspberry Pi that is able to capture rapid motion without introducing artefacts typical of rolling shutter cameras. It is ideally suited to fast motion photography and to machine vision applications, where even small amounts of distortion can seriously degrade inference performance.

With a large pixel size of 3.45µm × 3.45µm providing high light sensitivity, the Global Shutter Camera can operate with short exposure times (as low as 30µs with adequate lighting), an advantage for high-speed photography.

It features a 1.6MP Sony IMX296 sensor, and it has the same C/CS-mount lens assembly as the Raspberry Pi High Quality Camera, for compatibility with the same broad variety of lenses. In common with other global shutter sensors, the IMX296 has a lower resolution than similarly sized rolling shutter sensors; a low pixel count is appropriate for machine vision applications, where high-resolution images are challenging to process in real time. The Global Shutter Camera's lower resolution means that with appropriate lens magnification, an image suitable for processing by a machine vision model can be captured natively.

The Raspberry Pi Global Shutter Camera includes a C- to CS-mount adapter, a screwdriver, and a 150mm ribbon cable, as well as a removable plastic back cover for protection. It is compatible with any Raspberry Pi computer that has a CSI connector.

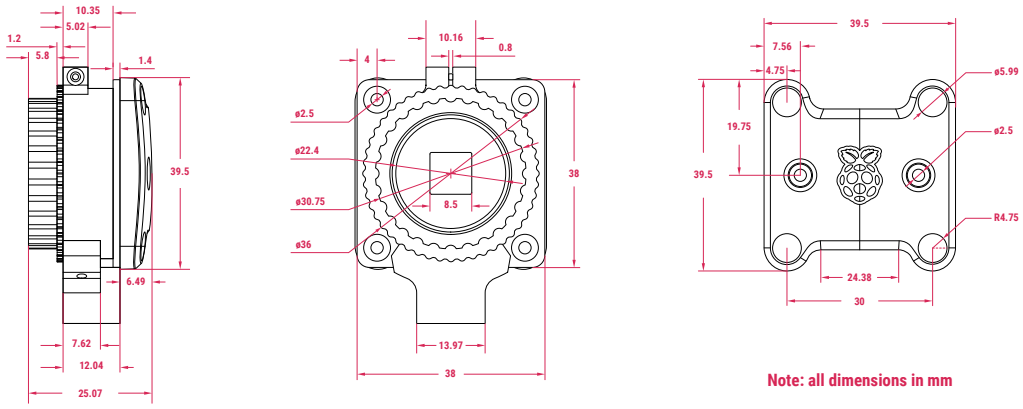
Specification

Form factor:	38 × 38 × 19.8mm (29.5mm adapter and dust cap)
Weight:	34g (41g with adapter and dust cap)
Sensor:	Sony IMX296LQR-C
Resolution:	1.58 megapixels (colour)
Sensor size:	6.3mm sensor diagonal
Pixel size:	3.45µm × 3.45µm
Output:	RAW10
Back focus length of lens:	Adjustable (12.5–22.4mm)
Lens standards:	CS-Mount C-Mount (C-CS adapter included)
IR cut filter:	Integrated [1]
Ribbon cable length:	150mm
Included accessories:	C-CS mount adapter Screwdriver
Tripod mount:	1/4”-20
Compliance:	FCC 47 CFR Part 15, Subpart B, Class B Digital Device Electromagnetic Compatibility Directive (EMC) 2014/30/EU Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU
Production lifetime:	The Raspberry Pi Global Shutter Camera will remain in production until at least January 2032

[1] Can be removed to enable IR sensitivity. Modification is irreversible.

Physical specification

CS Mount



Note: all dimensions in mm

WARNINGS

- This product should be operated in a well ventilated environment, and if used inside a case, the case should not be covered.
- Whilst in use, this product should be firmly secured or should be placed on a stable, flat, non-conductive surface, and should not be contacted by conductive items.
- The connection of incompatible devices to the Raspberry Pi Global Shutter Camera may affect compliance, result in damage to the unit, and invalidate the warranty.
- All peripherals used with this product should comply with relevant standards for the country of use and be marked accordingly to ensure that safety and performance requirements are met.

SAFETY INSTRUCTIONS

To avoid malfunction or damage to this product, please observe the following:

- Important: Before connecting this device, shut down your Raspberry Pi computer and disconnect it from external power.
- If the cable becomes detached, first pull forward the locking mechanism on the connector, then insert the ribbon cable ensuring that the metal contacts face towards the circuit board, and finally push the locking mechanism back into place.
- This device should be operated in a dry environment at 0–50°C.
- Do not expose to water or moisture, or place on a conductive surface whilst in operation.
- Do not expose to heat from any source; the Raspberry Pi Global Shutter Camera is designed for reliable operation at normal ambient temperatures.
- Store in a cool, dry location.
- Avoid rapid changes of temperature, which can cause moisture to build up in the device, affecting image quality.
- Take care not to fold or strain the ribbon cable.
- Take care when screwing in parts or fitting a tripod. A cross-thread can cause irreparable damage and void the warranty.
- Take care whilst handling to avoid mechanical or electrical damage to the printed circuit board and connectors.
- Whilst it is powered, avoid handling the printed circuit board, or handle it only by the edges, to minimise the risk of electrostatic discharge damage.


GND
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3V3
SDA
XVS
MAS
XTR



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