Allied Vision

# Alvium 1800 C-240c

- IMX392 CMOS sensor
- ALVIUM image processing
- MIPI CSI-2 interface
- Various hardware options

**Hardware option:** Open Housing C-Mount

Alvium 1800 C – High-performance camera modules for embedded vision

## Machine vision sensors for embedded system developers

Alvium 1800 C-240 with Sony IMX392 runs 126.0 frames per second at 2.4 MP resolution.

The powerful Alvium 1800 C MIPI CSI-2 camera series gives embedded system developers access to Sony's high-performance image sensors popular in the machine vision industry. These sensors with resolutions up to 20 megapixels deliver excellent image quality and up to twice the frame rates compared to similar Alvium 1500 C models.

See the Alvium Cameras Hardware Options for lens mount and housing options, as well as the Customization and OEM Solutions webpage for additional options.

To operate Alvium 1500 C cameras on your vision system, Allied Vision provides different access modes: - Direct Register Access (DRA) to control the cameras via registers for advanced users. - Video4Linux2 Access allows to control the cameras via established V4L2 API and applications like GStreamer and OpenCV. Open-source CSI-2 drivers are available on GitHub for different boards and system on chips (SoCs).

## Specifications

| Alvium 1800 C-240c Open Housing C-Mount | |
|---|---|
| Product code | 14853 |
| Interface | MIPI CSI-2, up to 4 lanes |
| Resolution | 1936 (H) × 1216 (V) |

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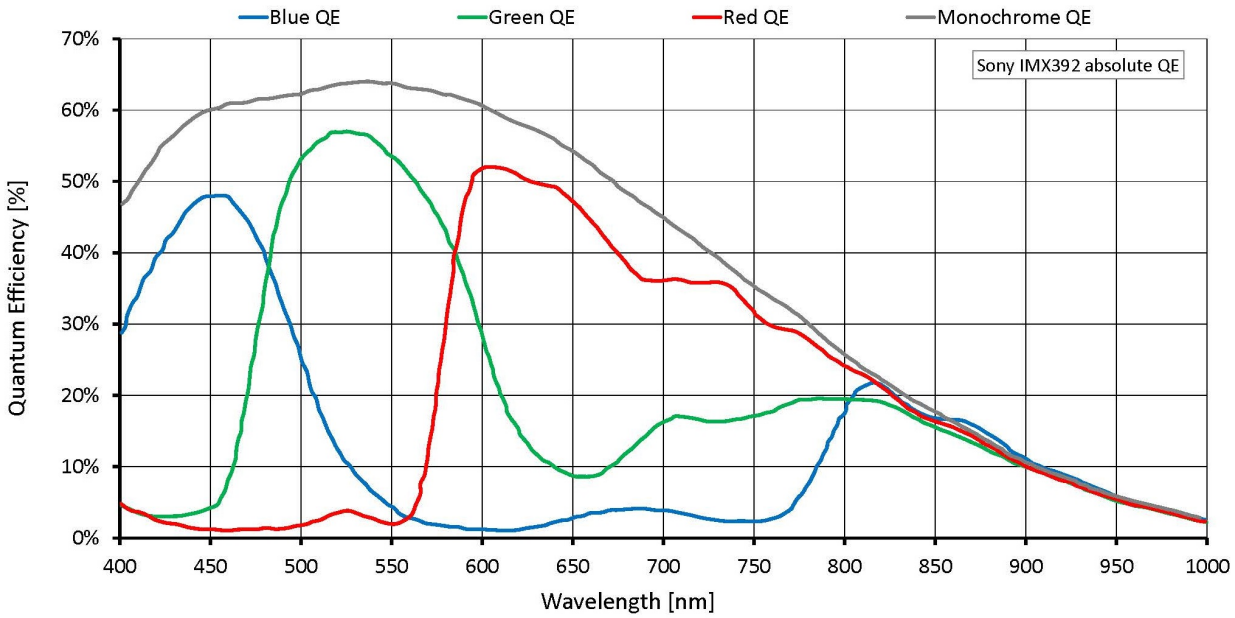
| Alvium 1800 C-240c Open Housing C-Mount | |
|---|---|
| Spectral range | 300 to 1100 nm |
| Sensor | Sony IMX392 |
| Sensor type | CMOS |
| Shutter mode | Global shutter |
| Sensor size | Type 1/2.3 |
| Pixel size | 3.45 µm × 3.45 µm |
| Lens mount | C-Mount |
| Optical Filter | Type Hoya C5000 IR cut filter |
| Max. frame rate at full resolution | 126 fps using 4 lanes, RAW8 (GREY) |
| ADC | 12 Bit |
| Image buffer (RAM) | 256 KB |
| Non-volatile memory (Flash) | 1024 KB |
| **Imaging performance**<br>Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured without optical filter. | |
| Quantum efficiency at 529 nm | 64 % |
| Temporal dark noise | 2.1 $e^-$ |
| Saturation capacity | 10400 $e^-$ |
| Dynamic range | 72 dB |
| Absolute sensitivity threshold | 2.7 $e^-$ |
| **Output** | |
| Bit depth | Max. 12 Bit |
| YUV color pixel formats | YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)] |
| RGB color pixel formats | RBG888 (RGB3) [MIPI CSI-2 (FOURCC)] |
| Raw pixel formats | RAW8 (GREY), RAW10 (Y10), RAW12 (Y12) [MIPI CSI-2 (FOURCC)] |
| **General purpose inputs/outputs (GPIOs)** | |
| TTL I/Os | 2 programmable GPIOs |
| **Operating conditions/dimensions** | |
| Operating temperature | +5 °C to +65 °C (housing) |

| Alvium 1800 C-240c Open Housing C-Mount | |
|---|---|
| Power requirements (DC) | 5 VDC over MIPI CSI-2 |
| Power consumption | Typical: 2.7 W |
| Mass | 40 g |
| Body dimensions (L × W × H in mm) | 26 × 29 × 29 |
| Regulations | 2011/65/EU, including amendment 2015/863/EU (RoHS) |

# Quantum efficiency




# Features

## Image control

### Auto control

- Auto exposure
- Auto gain
- Auto white balance (color models)

### Other image controls

- Black level
- De-Bayering up to 5×5 (color models)
- DPC (factory calibrated)
- Exposure time
- FPNC (factory calibrated)
- Gain
- Gamma
- Hue (color models)
- Region of interest (ROI)
- Reverse X/Y
- Saturation (color models)

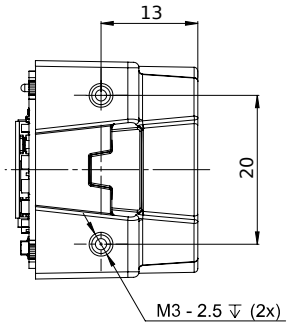
## Camera control

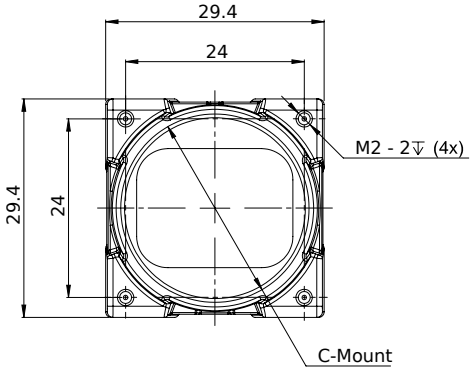
- Acquisition Frame Rate
- Temperature monitoring (sensor board)
- Triggering (Frame Start)

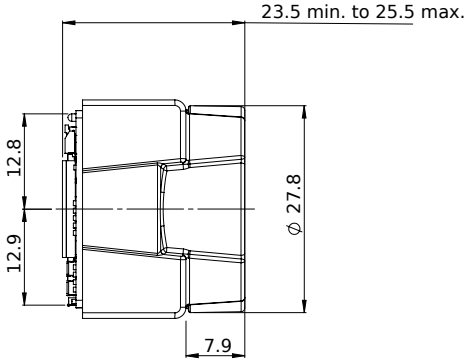
# Technical drawing

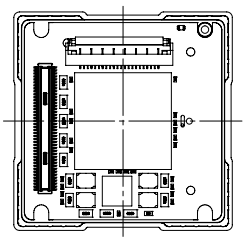
**Camera hardware options**

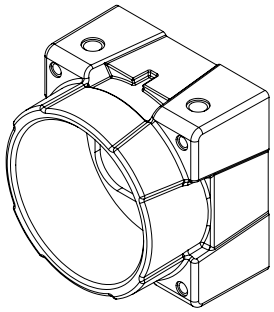
The Alvium Cameras Hardware Options document informs about submodels, such as bare board or open housing cameras with different lens mounts.

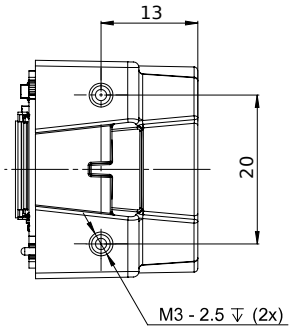
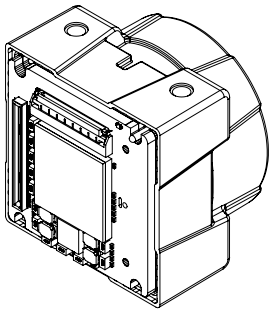

13
20
M3 - 2.5 ↧ (2x)


29.4
24
29.4
24
M2 - 2↧ (4x)
C-Mount


23.5 min. to 25.5 max.
12.8
12.9
⌀ 27.8
7.9






13
20
M3 - 2.5 ↧ (2x)