Allied Vision

Alvium
1800 C-508c

- IMX250 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-508 with Sony IMX250 runs 65.0 frames per second at 5.1 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-508c Open Housing C-Mount	
Product code	15501
Interface	MIPI CSI-2, up to 4 lanes
Resolution	2464 (H) × 2056 (V)

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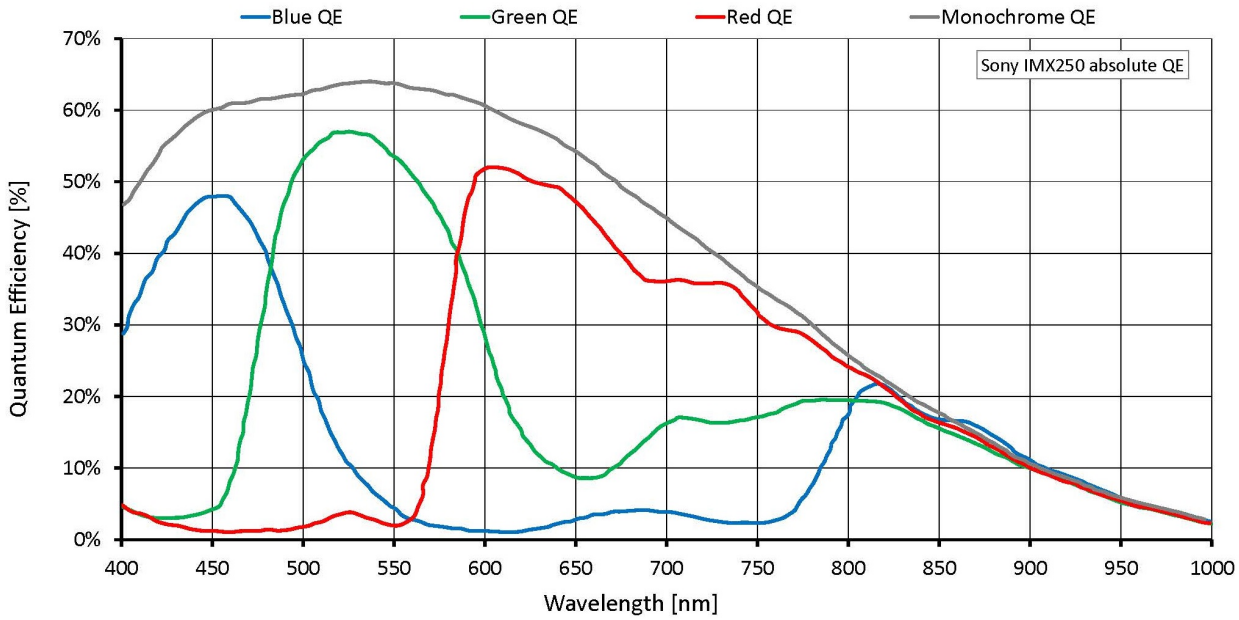
Alvium 1800 C-508c Open Housing C-Mount	
Spectral range	300 to 1100 nm
Sensor	Sony IMX250
Sensor type	CMOS
Shutter mode	Global shutter
Sensor size	Type 2/3
Pixel size	3.45 µm × 3.45 µm
Lens mount	C-Mount
Optical Filter	Type Hoya C5000 IR cut filter
Max. frame rate at full resolution	65 fps using 4 lanes, RAW8 (GREY)
ADC	12 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
Imaging performance	
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-508c Open Housing C-Mount	
Power requirements (DC)	5 VDC over MIPI CSI-2
Power consumption	Typical: 2.8 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)

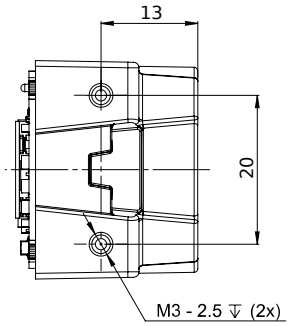
Camera control

- 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.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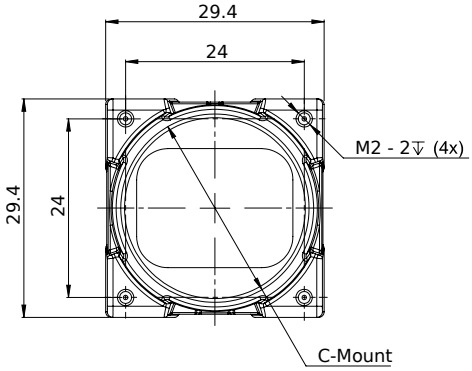
20
M3 - 2.5 ↧ (2x)


29.4
24
29.4
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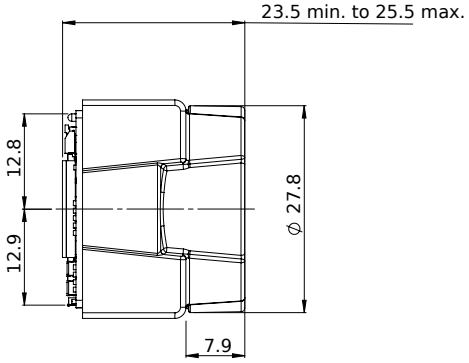
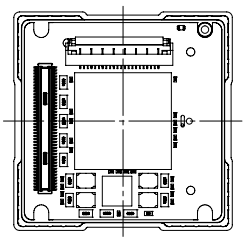
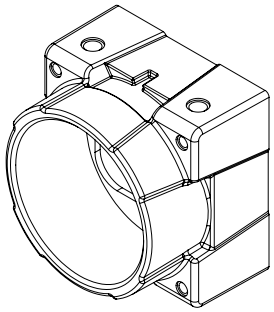
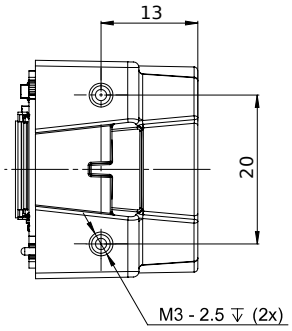
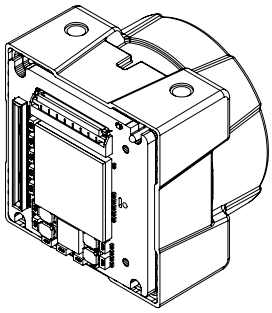
M2 - 2↧ (4x)
C-Mount


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



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M3 - 2.5 ↧ (2x)