

# Alvium

## GM2-235



- IMX174 CMOS sensor
- ALVIUM image processing
- GMSL2 interface
- Various hardware options

Model without hardware options

### Alvium GM2: Benefit from greater flexibility in speed and range

#### CSI-2 based Alvium cameras with GMSL2™ interface

Alvium GM2 cameras with GMSL2™ (Gigabit Multimedia Serial Link) interface have been designed to overcome the limitations of standard CSI-2 cameras. With a large choice of over 30 high-quality CMOS global and rolling shutter sensors Allied Vision is offering the broadest variety of GMSL2™ cameras in the market. The CSI-2 based closed housing cameras come with an integrated serializer, 2 GPIOs (General Purpose Input/Output) on the camera and two rugged interface connectors to choose from.

To operate Alvium GM2 cameras on your vision system, Allied Vision provides different access modes:

- **GenICam for CSI-2 Access** controls the camera by GenICam features, using the Alvium CSI-2 driver and CSI-2 transport layer (TL) directly. Alvium GM2 models with equivalent 1800 C models are supported. Please find FAQs and installation instructions in the [Getting Started with GenICam for CSI-2](#) application note.
- **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).

In addition to lens mount and housing options, see [Customization and OEM Solutions webpage](#) for additional options.

## Specifications

Interface	GMSL2, based on MIPI CSI-2, up to 4 lanes
Resolution	1936 (H) × 1216 (V)
Spectral range	300 to 1100 nm
Sensor	Sony IMX174
Sensor type	CMOS
Shutter mode	GS (Global shutter)
Sensor size	Type 1/1.2
Pixel size	5.86 μm × 5.86 μm
Lens mounts (available)	C-Mount, CS-Mount
Max. frame rate at full resolution	Mainly depends on hardware and register settings
ADC	12 Bit
Image buffer (RAM)	256 KByte
Non-volatile memory (Flash)	1024 KByte

### Output

Bit depth	10-bit, 12-bit; Adaptive (10-bit, 12-bit)
Monochrome pixel formats	PFNC: Mono8, Mono10, Mono10p, Mono12, Mono12p   CSI-2: RAW8, RAW10, RAW12   FOURCC: GREY, Y10, Y12
YUV color pixel formats	PFNC: YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr   CSI-2: YUV422 8-bit   FOURCC: UYVY
RGB color pixel formats	PFNC: RGB8 (default), BGR8   CSI-2: RGB888 (default)   FOURCC: RGB3
Raw color pixel formats (Bayer)	PFNC: BayerGR8, BayerGR10, BayerGR10p, BayerGR12, BayerGR12p

### General purpose inputs/outputs (GPIOs)

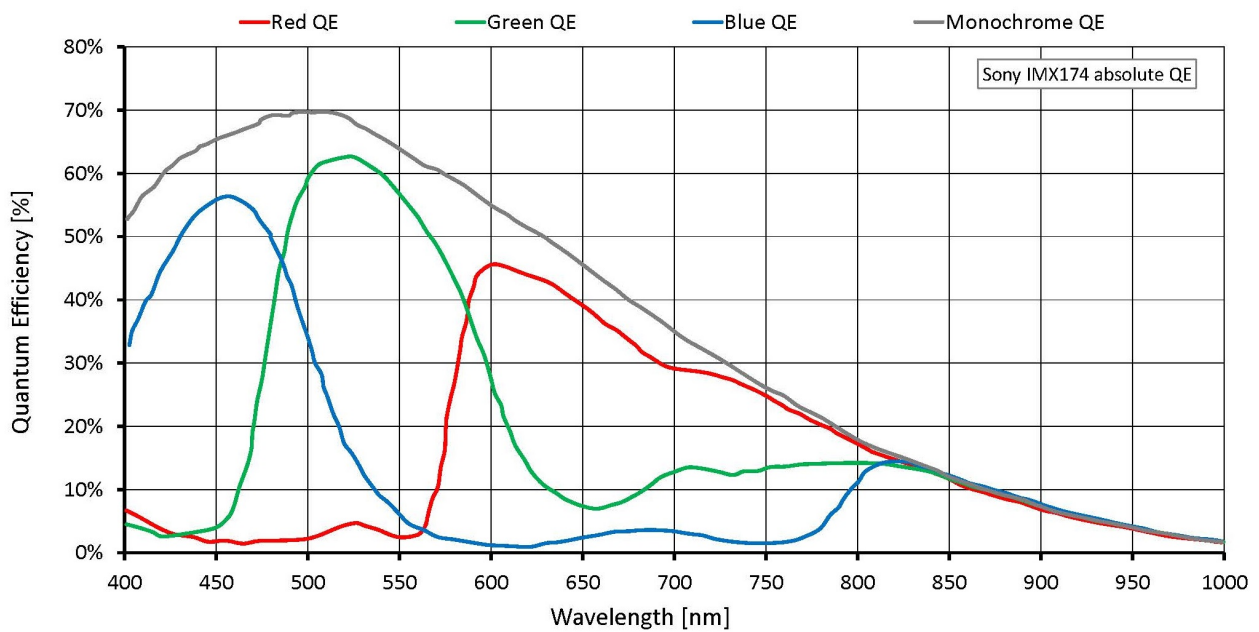
TTL I/Os	2 programmable GPIOs
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### Operating conditions/dimensions

Operating temperature	-20 °C to +65 °C (housing)
Power requirements (DC)	5 VDC over MIPI CSI-2

Power consumption	Value for the integrated serializer adds to CSI-2 model value.
Mass	70 g
Body dimensions (L × W × H in mm)	41 × 29 × 29

## Quantum efficiency



## Features

### Image control: Auto

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

### Image control: Other

- Adaptive noise correction\*
- Binning (digital)
- Black level
- Color transformation (incl. hue, saturation; color models)
- Contrast\*
- Custom convolution\*
- De-Bayering up to 5×5 (color models)
- DPC (defect pixel correction)
- Gamma
- Lens shading correction\*
- LUT (look-up table)\*
- Reverse X/Y
- ROI (region of interest)
- Sharpness/Blur\*

### Camera control

- Acquisition frame rate
- Counters and timers\*
- Firmware update in the field
- I/O and trigger control
- Image chunk data\*
- Readout modes (SensorBitDepth)\*
- Serial I/Os\*
- Temperature monitoring
- User sets\*

\*GenICam for CSI-2 Access

# Technical drawing

