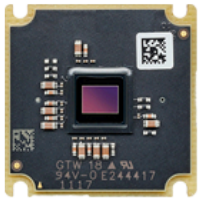
Allied Vision







Alvium

1800 C-158

- IMX273 CMOS sensor
- ALVIUM image processing
- MIPI CSI-2 interface
- Various hardware options

Embedded vision CSI-2 camera with IMX273 sensor

Alvium CSI-2 cameras enable new designs for embedded applications with improved image quality and reduced workload for the host. The innovative ALVIUM System on Chip (SoC) performs image corrections and preprocessing tasks onboard the camera instead of the host computer. Unlike FPGAs commonly used in machine vision cameras, the ALVIUM SoC is extremely power efficient. With Alvium, integrating hardware and software can be done effortlessly, which ultimately reduces development time. The Sony IMX273 CMOS sensor enables imaging at 1.58 megapixel and 154 frames per second. Color models ship with an IR cut filter, monochrome and S-Mount models ship without a filter or protection glass.

Benefits and features

- Monochrome (1800 C-158m) and color (1800 C-158c) models
- ALVIUM® Technology for on-board image processing
- MIPI CSI-2 interface with up to 4 lanes
- Platform concept that enables the operation of different Alvium camera models with a common software
- Hirose HR FHH55 FPC connector with minimum space requirements for a compact design
- Precise sensor-to-lens mount alignment
- Standard M3 mounting holes for top and bottom mounting, standard M2 mounting holes for front mounting
- Industrial performance for embedded vision applications
- Easy-to-install driver and code examples

Allied Vision

Hardware options

- Housing: Alvium 1800 C cameras are available as bare board or open housing cameras.
- Various lens mounts: Select between S-Mount, CS-Mount, or C-Mount.

For more information on hardware options, including product codes and technical data, such as technical drawings and mass, see the Alvium Cameras Hardware Options document.

Available accessories

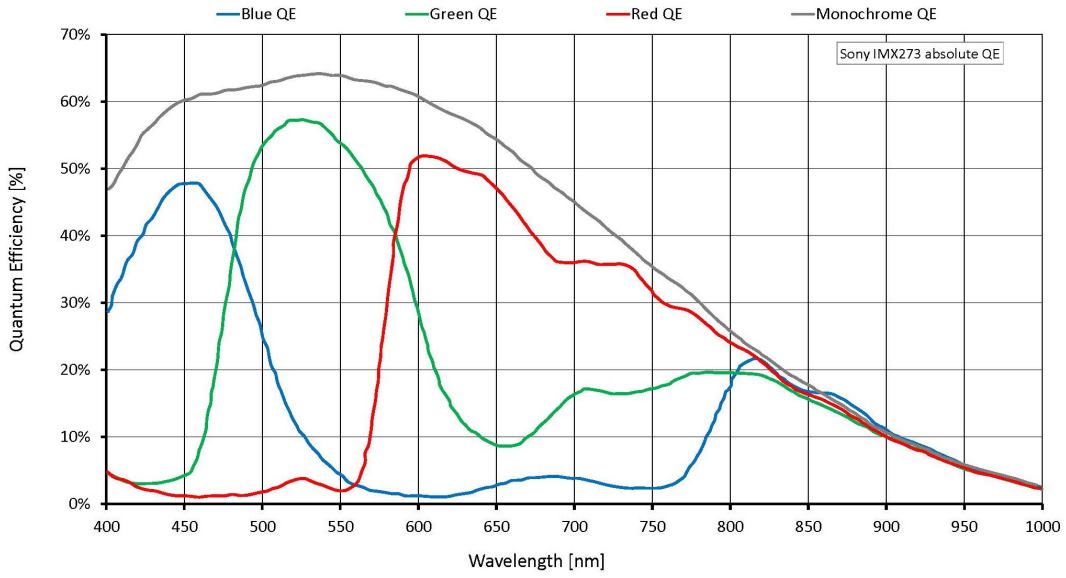
- Tripod adapter
- Adapter boards, such as for Nitrogen6_MAX and Wandboard i.MX6
- FPC cables in 120 mm, 220 mm, and 420 mm length
- Various lenses and Allied Vision S-Mount lenses with focal lengths 2.97 - 12 mm

Specifications

Alvium	**1800 C-158**
Interface	MIPI CSI-2, up to 4 lanes
Resolution	1456 (H) × 1088 (V)
Spectral range	300 to 1100 nm
Sensor	Sony IMX273
Sensor type	CMOS
Shutter mode	Global shutter
Sensor size	Type 1/2.9
Pixel size	3.45 µm × 3.45 µm
Lens mounts (available)	S-Mount, CS-Mount, C-Mount
Max. frame rate at full resolution	154 fps using 2 to 4 lanes, RAW8
ADC	12 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
Output	
Bit depth	Max. 12 Bit
YUV color pixel formats	YUV422_10
RGB color pixel formats	BGR888, RGB888
Raw pixel formats	RAW8 (monochrome or color)
Operating conditions/dimensions	
Operating temperature	+5 °C to +65 °C housing temperature (with heat sink)
Power requirements (DC)	5 VDC over MIPI CSI-2

Alvium	1800 C-158
Power consumption	Typical: 2.4 W
Mass	10 g (bare board)
Body dimensions (L × W × H in mm)	13 × 26 × 26 (bare board, standard), 13 × 30 × 26 (bare board, 90°)
Regulations	2011/65/EU, including amendment 2015/863/EU (RoHS)

Quantum efficiency



Features

Image control

Auto control

- Auto exposure
- Auto gain
- Auto white balance

Other image controls

- Black level
- De-Bayering up to 5×5 (color models)
- Exposure time

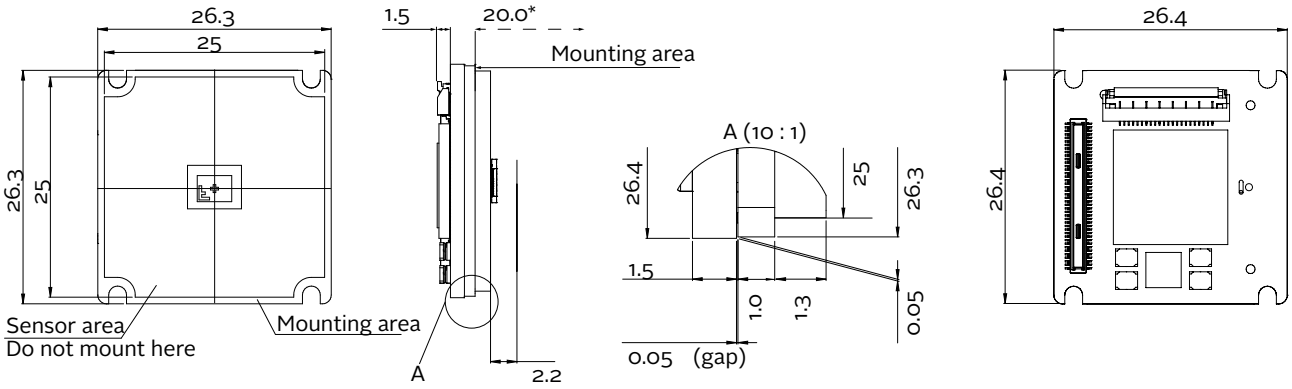
- Gain
- Gamma
- Hue
- Region of interest (ROI)
- Reverse X/Y
- Saturation

Camera control

- Temperature monitoring (sensor board)

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.



*Mechanical length for C-Mount, for other mounts and details, see the user guide.

Applications

Powered by the ALVIUM® Technology, a unique System-on-chip designed by Allied Vision, the Alvium 1500 and Alvium 1800 Series deliver industrial performance to embedded vision with many benefits for system engineers.

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

Allied Vision:

17193 17228 1800 C-203M MONO C-MOUNT OPEN ALLIED VISION LENS C-12-2.4-25MP-1.2 ALLIED VISION LENS C-25-1.8-10MP-2.3 ALLIED VISION LENS C-35-2.4-25MP-1.2 14661 1800 C-203C COLOR C-MOUNT OPEN 11886 14158 15920 15921 17186 12319 14140 18087 ALLIED VISION LENS C-50-2.4-25MP-1.2 12908 14829 15097 ADAPTER BOARD ORIN NANO DEV KIT 11492 12310-02 12345 15899 GM2-240C COLOR S-MOUNT COAX 11951 15918 DESERIALIZER BOARD GMSL2 COAX TO CSI-2 FP3-2050C COLOR C-MOUNT COAX