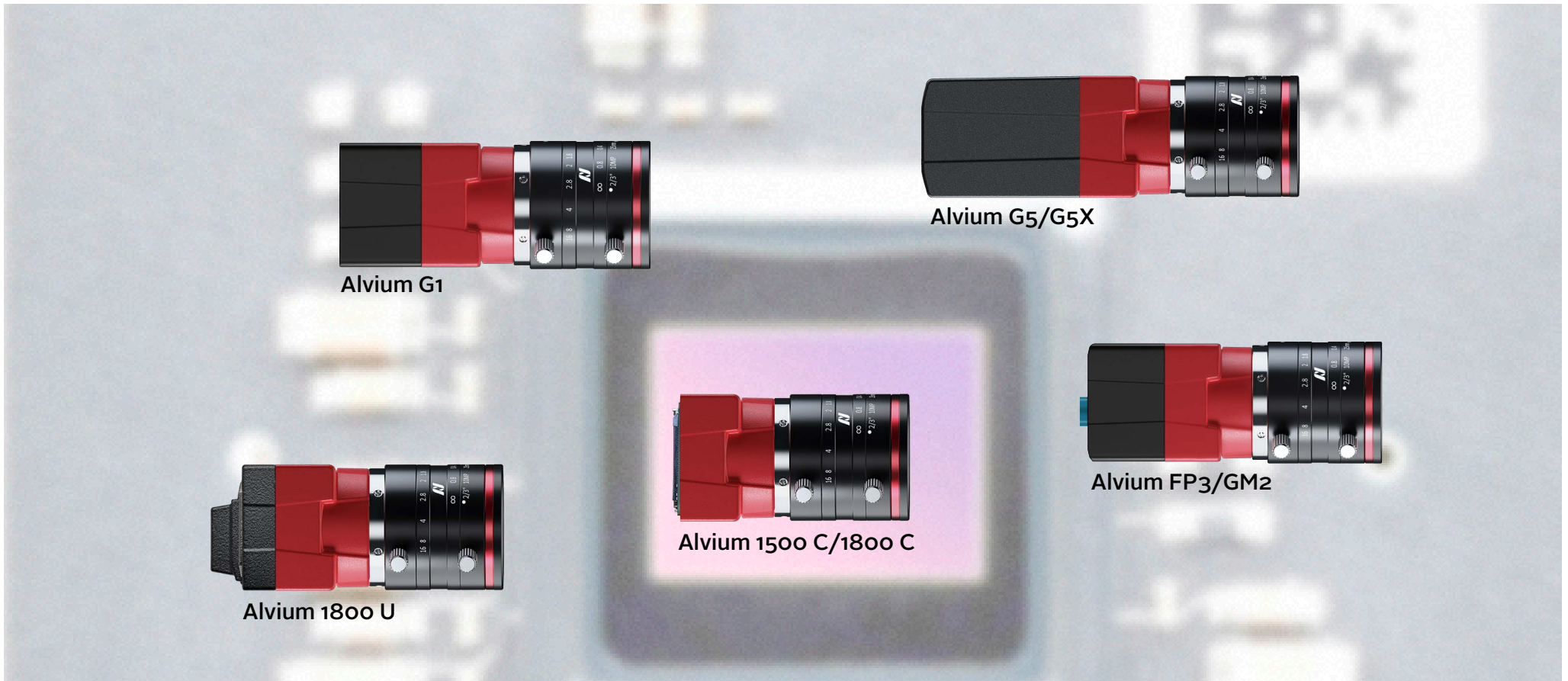


Alvium Modular Concept

V1.5.0

Document Release: 2024-Mar-21

Valid from: 2024-Apr-01



Alvium Modular Concept at a glance

About this document

Standard hardware options for Alvium cameras include bare board and housings. This document lists additional options, with availability, lead time, and pricing. We are striving to extend options continually. Product codes are created when orders are placed.



Lead times

Standard Alvium cameras have a typical lead time of 2 weeks. Options in this document are either Standard (= 2 weeks) or have an **additional lead time** adding to the Standard lead time.



Options not listed

If you are looking for other options, please contact our Sales team at www.alliedvision.com/en/about-us/contact-us/contact-sales.



Modular Concept for other Allied Vision cameras

You can find the Modular Concept for Bonito PRO, Goldeye G/CL, Mako, Manta, Prosilica GC, and Prosilica GT at www.alliedvision.com/en/support/technical-documentation.

What else do you need?

Documentation download	Link
Alvium CSI-2, Alvium FP3/GM2	www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation
Alvium USB	www.alliedvision.com/en/support/technical-documentation/alvium-usb-documentation
Alvium G1	www.alliedvision.com/en/support/technical-documentation/alvium-gige-documentation
Alvium G5/G5X	
Accessories product selection	www.alliedvision.com/en/products/accessories
Accessory documentation overview	www.alliedvision.com/en/support/accessory-documentation

Table 1: Downloads for Alvium cameras

Contact us

Website, email

General

www.alliedvision.com/en/contact

info@alliedvision.com

Distribution partners

www.alliedvision.com/en/avt-locations/avt-distributors

Support

www.alliedvision.com/en/support

www.alliedvision.com/en/about-us/contact-us/technical-support-repair/-/rma

Offices

Europe, Middle East, and Africa (Headquarters)

Allied Vision Technologies GmbH
Taschenweg 2a
07646 Stadtroda, Germany
T// +49 36428 677-0 (Reception)
T// +49 36428 677-230 (Sales)
F// +49 36428 677-28

Asia-Pacific

China

Allied Vision Technologies
(Shanghai) Co., Ltd.
2-2109 Hongwell Int. Plaza
1602# ZhongShanXi Road
Shanghai 200235, China
T// +86 21 64861133

Singapore

Allied Vision Technologies Asia Pte. Ltd
82 Playfair Rd, #07-01 D'Lithium
Singapore 368001
T// +65 6634 9027

North, Central, and South America

Canada

Allied Vision Technologies Canada Inc.
300 – 4621 Canada Way
Burnaby, BC V5G 4X8, Canada
T// +1 604 875 8855

USA

Allied Vision Technologies, Inc.
102 Pickering Way- Suite 502
Exton, PA 19341, USA
Toll-free// +1-877-USA-1394
T// +1 978 225 2030

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Document history and conventions

Document history

Version	Date	Document updates
V1.5.0	2024-Mar-21	<ul style="list-style-type: none"> Updated camera images on the title page. Added Alvium G1 BL Frame to Alvium G1 BL, including Alvium G1 BL Frame on page 7. Added models and prices in Sensors without cover glass on page 16. Applied editorial changes.
V1.4.2	2023-Dec-05	Re added Black housing on page 18 with images.
V1.4.1	2023-Nov-21	<ul style="list-style-type: none"> Updated contents to separate more clearly between USB cameras with USB connector orientations of 90° and 180° in Alvium CSI-2/USB Frame on page 13. Applied editorial changes.
V1.4.0	2023-Oct-06	<ul style="list-style-type: none"> Added Alvium G1 BL, including Alvium G1 BL Frame on page 7. Added Alvium CSI-2/USB Flex accessories on page 12. Applied editorial changes.
V1.3.0	2023-Aug-18	<ul style="list-style-type: none"> Changed status to available for Alvium CSI-2/USB Flex on page 11 and for Alvium CSI-2/USB Frame on page 13. Extended the model range to include STP in addition to Coax, see Alvium FP3/GM2 on page 8.
V1.2.0	2023-Jun-07	<ul style="list-style-type: none"> Updated camera images on the title page. Added options for Alvium FP3/GM2 on page 8. Added Alvium FP3/GM2 Coax accessories on page 9.
V1.1.0	2023-Mar-03	<ul style="list-style-type: none"> Updated camera images on the title page. Added camera options for Alvium CSI-2/USB Flex on page 11. Added camera options for Alvium CSI-2/USB Frame on page 13.
V1.0.0	2022-Sep-29	Initial release

Table 2: Document history

Conventions used in this document

Typographical styles

To give this manual an easily understood layout and to emphasize important information, the following typographical styles and symbols are used.

Style	Function
Emphasis	Highlighting important things
Web addresses and references	Links to webpages and internal cross references

Table 3: Typographical styles

Symbols and notes



Practical tip

Additional information helps to understand.



Additional information

Web link or reference to an external source with more information is shown.

Alvium modular options



Most modular options can be combined

Examples: Alvium Frame Flex, Alvium Flex with black housing, or Alvium FP3/GM2 with RCG option.

Alvium G1 BL, including Alvium G1 BL Frame

Alvium G1 BL (Board Level) supports applications where the position of the GigE and I/O connector differs from Alvium G1 standard cameras; where a different lens mount is needed, or no lens mount at all. Alvium G1 BL cameras are available as

- **Alvium G1 BL C-Mount** (CS-Mount or S-Mount correspondingly)
- **Alvium G1 BL Frame** (to align lenses or optical systems with the sensor)
- **Alvium G1 BL No Mount** (sensor unit without a housing).

The Alvium G1 User Guide includes specifications and technical drawings for Alvium BL.



Document downloads

Alvium G1 User Guide: www.alliedvision.com/en/support/technical-documentation/alvium-gige-documentation/



All sensor models are available as Alvium BL models.

The price calculates from the corresponding Alvium G1 Closed Housing model plus additional costs.

Hardware option	FPC cable length	Minimum quantity	Additional lead time	Additional costs
C-Mount, CS-Mount, S-Mount	110 mm	1 piece	No additional lead time	
	200 mm	1 piece	No additional lead time	
Frame	110 mm	1 piece	No additional lead time	
	200 mm	1 piece	No additional lead time	
No Mount	110 mm	1 piece	No additional lead time	
	200 mm	1 piece	No additional lead time	

Table 4: Alvium G1 BL options

Alvium FP3/GM2

Alvium FP3 and Alvium GM2 options extend cable lengths for MIPI CSI-2 to maximum 15 m for **FP3/GM2 Coax**, and to 8 m for **GM2 STP** and 10 m for **FP3 STP** models:

- Alvium FP3 cameras with integrated serializer for FPD-Link III
- Alvium GM2 cameras with integrated serializer for GMSL2.

The Alvium CSI-2 Cameras User Guide includes all data common with Alvium FP3/GM2 cameras. The Alvium FP3/GM2 User Guide includes individual data for these cameras.



Camera documentation and accessories

You can find the Alvium CSI-2 Cameras User Guide and the Alvium FP3/GM2 User Guide at www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation.

For accessories, such as deserializer boards, adapter boards to embedded boards, FAKRA coaxial cables HSD STP cables, and FPC cables, see www.alliedvision.com/en/products/accessories.



Camera configuration as a service

We specify a few default system configurations. Should any other configurations be required, we are happy to offer configuring your system as a service. A configuration mainly consists of:

- Number of cameras
- Combination of carrier boards and SoM (System on Module)
- I/O camera configuration
- DESER (Deserializer-Serializer) configuration
- BSP (Board Support Package)

All Alvium CSI-2 models are available as Alvium FP3/GM2 closed housing cameras.

The price calculates from the corresponding Alvium1500 C or 1800 C Open Housing model plus additional costs.

Lens mount	Minimum quantity	Additional lead time	Additional costs Coax models	Additional costs STP models
C-Mount	Please ask our Sales team for minimum quantities and additional lead time.			
CS-Mount				
S-Mount				

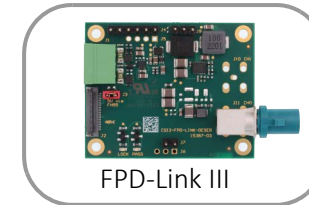
Table 5: Alvium FP3/GM2 Coax and STP camera options

Alvium FP3/GM2 Coax accessories

Deserializer boards

Interface	Product code	Product name	Pricing
FPD-Link III	19559	Deserializer Board FPD-Link III Coax to CSI-2	
GMSL2	19503	Deserializer Board GMSL2 Coax to CSI-2	

Table 6: Deserializer boards for Alvium FP3/GM2 Coax cameras



FPD-Link III

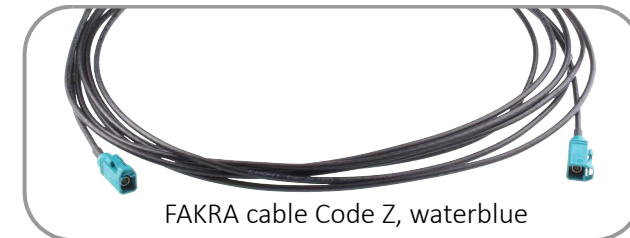


GMSL2

FAKRA coaxial cables (Code Z, water blue)

Cable length	Product code	Product name	Pricing
5 m	18424	Cable FPD-Link III / GMSL2 5 m Coax	
10 m	18425	Cable FPD-Link III / GMSL2 10 m Coax	
15 m	18426	Cable FPD-Link III / GMSL2 15 m Coax	

Table 7: FAKRA coaxial cables for Alvium FP3/GM2 Coax cameras



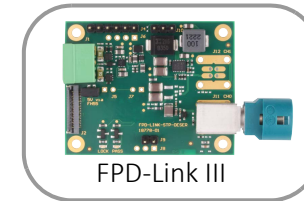
FAKRA cable Code Z, waterblue

Alvium FP3/GM2 STP accessories

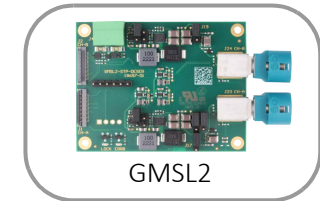
Deserializer boards

Interface	Product code	Product name	Pricing
FPD-Link III	19502	Deserializer Board FPD-Link III STP to CSI-2	
GMSL2	19558	Deserializer Board GMSL2 STP to CSI-2	

Table 8: Deserializer boards for Alvium FP3/GM2 STP cameras



FPD-Link III

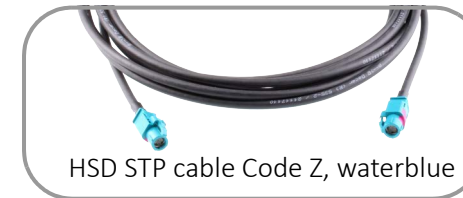


GMSL2

HSD STP cables (Code Z, water blue)

Cable length	Product code	Product name	Pricing
5 m	18405	Cable FPD-Link III / GMSL2 5 m STP	
10 m	18406	Cable FPD-Link III / GMSL2 10 m STP	

Table 9: HSD STP cables for Alvium FP3/GM2 STP cameras



HSD STP cable Code Z, waterblue

Alvium CSI-2/USB Flex

Alvium Flex replaces interface and I/O connectors by a board-to-board connector, the Hirose DF40C-50DP-0.4V. This facilitates the deep integration into users' systems. Various accessories are available for Alvium Flex cameras.

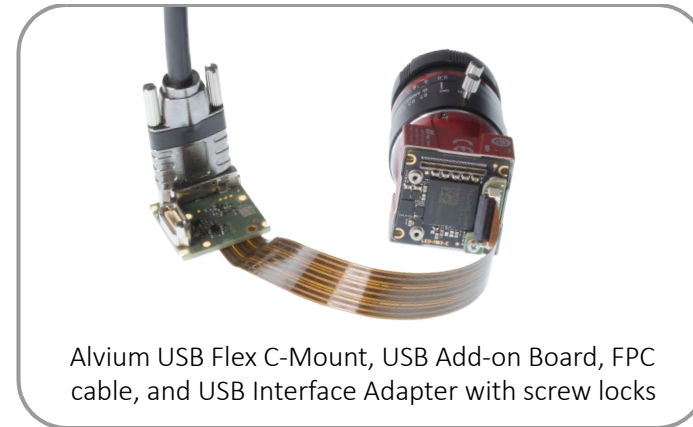
The user guides for Alvium CSI-2 and USB cameras include specifications and technical drawings for Alvium Flex camera models. The Alvium Flex Design and Accessory Guide informs about Add-on Boards, Interface Boards, and FPC cables, and it instructs on using Alvium Flex cameras with these accessories.



Document downloads

Alvium CSI-2 cameras: www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation/

Alvium USB cameras: www.alliedvision.com/en/support/technical-documentation/alvium-usb-documentation/.

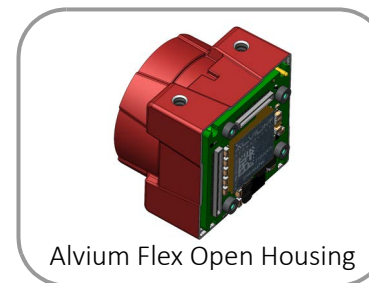


Alvium USB Flex C-Mount, USB Add-on Board, FPC cable, and USB Interface Adapter with screw locks

All sensor models are available as Alvium Flex open housing or bare board. This modular option can be combined with such as Frame, filters, RCG, or black housing. The price is the same as for the corresponding standard Alvium CSI-2/USB Open Housed or Bare Board models.

Lens mount or bare board	Minimum quantity	Additional lead time	Additional costs
C-Mount	1 piece	No additional lead time	
CS-Mount			
S-Mount			
Bare board			

Table 10: Alvium CSI-2/USB Flex camera options



Alvium Flex Open Housing



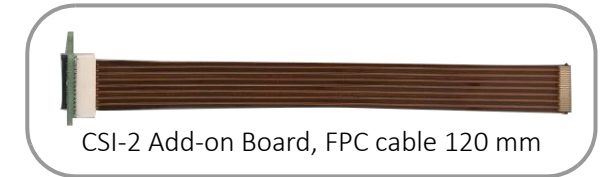
Alvium Flex Bare Board

Alvium CSI-2/USB Flex accessories

Accessory kit for Alvium CSI-2 Flex cameras

Product code	Product	Included components	Pricing
19366	Kit Alvium Flex CSI-2 120 mm	CSI-2 Add-on Board, FPC cable 120 mm	

Table 11: Accessory kit for Alvium CSI-2 Flex cameras

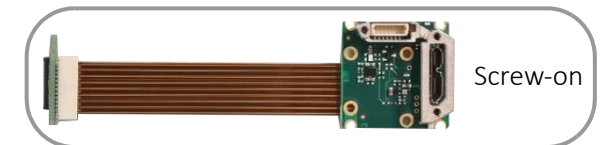


Accessory kits for Alvium USB Flex cameras

Product code	Product	Included components	Pricing
19363	Kit Alvium Flex USB3 80 mm Screw-on	USB Add-on Board, FPC cable 80 mm, USB Interface Board Screw-on	
19365	Kit Alvium Flex USB3 160 mm Screw-on	USB Add-on Board, FPC cable 160 mm, USB Interface Board Screw-on	
19362	Kit Alvium Flex USB3 80 mm Compact	USB Add-on Board, FPC cable 80 mm, USB Interface Board Compact	
19364	Kit Alvium Flex USB3 160 mm Compact	USB Add-on Board, FPC cable 160 mm, USB Interface Board Compact	
19367	Kit Alvium Flex USB3 80 mm Open	USB Add-on Board, FPC cable 80 mm	
19368	Kit Alvium Flex USB3 160 mm Open	USB Add-on Board, FPC cable 160 mm	

Table 12: Accessory kits for Alvium USB Flex cameras

USB Add-on Board, FPC cable 80 mm versions:

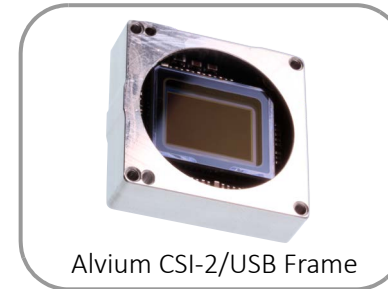


Alvium CSI-2/USB Frame

Alvium Frame supports applications that do not require a lens mount, or where a different lens mount is needed than offered for standard Alvium cameras. The square front section of the camera is manufactured with maximum precision to fit smoothly into your machine for perfect alignment of lenses or optical systems with the sensor.

Currently, Alvium Frame is available for Alvium CSI-2 and Alvium USB cameras.

The user guides for Alvium CSI-2 and USB cameras include specifications and technical drawings for Alvium Frame camera models.



Document downloads

Alvium CSI-2 cameras: www.alliedvision.com/en/support/technical-documentation/alvium-csi-2-documentation/

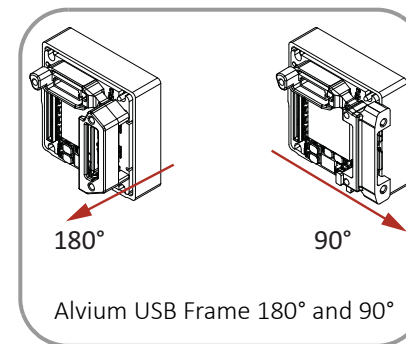
Alvium USB cameras: www.alliedvision.com/en/support/technical-documentation/alvium-usb-documentation/.

All sensor models are available as Alvium Frame (sensor-aligned bare board mounted into a high-precision frame). This includes USB connector orientation for 180° and 90°.

The price calculates from the corresponding standard Alvium CSI-2/USB Bare Board model plus additional costs.

Interface	Minimum quantity	Additional lead time	Additional costs
CSI-2 Frame	1 piece	No additional lead time	
USB Frame 180°			
USB Frame 90°			

Table 13: Alvium CSI-2/USB Frame camera options



USB interface connector position

- **180°**: The connector is at the camera backside. In the naming for camera hardware options, this option is **not mentioned**.
- **90°**: The connector is at the camera left side, as seen from the lens mount. In the naming for camera hardware options, this option is named **90°**.

Filter options

Color cameras without IR cut filter

Standard Alvium color models with C-Mount and CS-Mount are shipped **with** an IR cut filter. All housed Alvium color models are available **without** an IR cut filter:

Lens mount	Models All ¹	Minimum quantity	Additional lead time	Additional costs
C-Mount	✓	20 ²	+1 week	
CS-Mount	✓	20 ²	+1 week	
S-Mount	Not applicable ³			
¹ Exception: 1500 C-501c NIR and 1800 U-501c NIR do not have an IR cut filter. ² Please contact our Sales team if you need less than 20 pieces. ³ S-Mount cameras do not have an IR cut filter.				

Table 14: Color cameras without IR cut filter



Accuracy guaranteed

Of course, the flange focal distance is adjusted.

Monochrome cameras with IR cut filter

Standard Alvium monochrome and NIR models are shipped **without** an IR cut filter. All Alvium monochrome C-Mount and CS-Mount models are available **with** an IR cut type Hoya C5000 filter:

Lens mount	Models	Minimum quantity	Additional lead time	Additional costs
	All			
C-Mount	✓	20 ¹	+1 week	
CS-Mount	✓	20 ¹	+1 week	
S-Mount	Not applicable ²			
¹ Please ask our Sales team if you need less than 20 pieces.				
² S-Mount cameras cannot be equipped with an IR cut filter.				

Table 15: Monochrome cameras with IR cut filter



Accuracy guaranteed

Of course, the flange focal distance is adjusted.



Other filters

For other filters, please contact our Sales team!

Sensors without cover glass

Sensors without cover glass are suitable for several applications, to:

- Increase overall quantum efficiency
- Attach fiber optic arrays directly to the sensor, for example in connection with an image intensifier
- Prevent disturbing reflections or interferences caused by the sensor cover glass.

All Alvium cameras with IMX sensors are available without sensor cover glass; including all interfaces, housings, and bare board.

Additional lead time is typically 4 weeks.

Sensor cleanliness

Definitions for Alvium cameras without cover glass are shown in [Table 16](#):

Sensor family	Max. cluster size	Max. cluster quantity
	Pixels at f1/8.0*	At f1/8.0*
ON Semi	Not applicable	
Sony	12	1

*The incident beam (not related to the lens' angle of view) is $\geq 7^\circ$ for f1/8.0.

Table 16: Definitions for sensor cleanliness



Advanced sensor cleanliness

If standard definitions for Alvium do not fulfill the requirements of your application, please contact your Allied Vision Sales representative or visit www.alliedvision.com/en/about-us/contact-us/technical-support-repair-/-rma.



Handling of cameras without sensor cover glass

Housed cameras: The cover glass is removed by Allied Vision before shipping (**Removed** Cover Glass – RCG).

Bare board cameras: The cover glass is removed by the customer (**Taped** Cover Glass – TCG).

Before handling cameras without sensor cover glass, read the application note: www.alliedvision.com/fileadmin/content/documents/products/cameras/various/appnote/various/TCG-RCG_Sensor-Handling.pdf.



Prices for RCG and TCG options

Pricing is the same for RCG and TCG options, unless otherwise stated.

Model ¹ ->	030 VSWIR RCG	030 VSWIR TCG	040	052	130 VSWIR RCG	130 VSWIR TCG	158	203	234	235	240	291	319	507 ²	508 ²
Sensor	IMX991	IMX991	IMX287	IMX426	IMX990	IMX990	IMX273	IMX422	IMX249	IMX174	IMX392	IMX421	IMX265	IMX264	IMX250
Additional costs															

¹ Observe not every model is available for all Alvium series. Options are RCG, unless otherwise stated. | ² Including Pol models.

Table 17: Cameras with RCG and TCG sensor options (table 1 of 2)

Model ¹ ->	510	511	811	812 UV RCG	812 UV TCG	895	1236	1240	1242	1620	2040	2050	2460
Sensor	IMX548	IMX547	IMX546	IMX487	IMX487	IMX267	IMX304	IMX226	IMX545	IMX542	IMX541	IMX183	IMX540
Additional costs													

¹ Observe not every model is available for all Alvium series. Options are RCG, unless otherwise stated. | ² Including Pol models.

Table 18: Cameras with RCG and TCG sensor options (table 2 of 2)

