

// ALVIUM POLARIZER CAMERAS

High Quality Imaging with Polarization Filter Technology

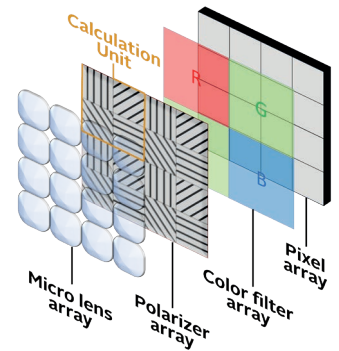


Camera Highlights

Model	Sensor	Sensor Type	Sensor Size	Pixel Size	Resolution	Frame Rate
Alvium C-507m/c Pol	IMX264 MZR/MYR	CMOS Global shutter	Diagonal 11.1mm (Type 2/3")	3.45 μm \times 3.45 μm	5.0 MP 2464 (H) \times 2056 (V)	34 fps
Alvium U-507m/c Pol						34 fps
Alvium G1-507m/c Pol						23 fps
Alvium G5-507m/c Pol						34 fps
Alvium C-508m/c Pol	IMX250 MZR/MYR	CMOS Global shutter	Diagonal 11.1mm (Type 2/3")	3.45 μm \times 3.45 μm	5.0 MP 2464 (H) \times 2056 (V)	95 fps
Alvium U-508m/c Pol						84 fps
Alvium G5-508m/c Pol						95 fps

Alvium polarizer cameras are equipped with Polarsens™ 5.0 MP monochrome and color CMOS sensors incorporating four-directional polarization filter technology from Sony. The on-chip nanowire polarizing layer supports four orientations (0°, 45°, 90°, and 135°) so that each pixel of the sensor captures polarized light in relation to its specific wire-grid axis. Four pixels together build a calculation unit to determine for each pixel the intensity and angle of polarization, similar to the debayering of an RGB or color sensor. By using pseudo-color look-up tables for each angle of polarization defects and areas of stress can be easily visualized.

With the new polarizer cameras Allied Vision offering a cost-effective solution to unveil image features not visible with conventional imaging solutions. By using polarized image data, reflections that hinder a surface inspection can be reduced, contrast can be enhanced in lowlight conditions to detect shapes, and various material properties can be detected, like stress, composition, or surface structure.



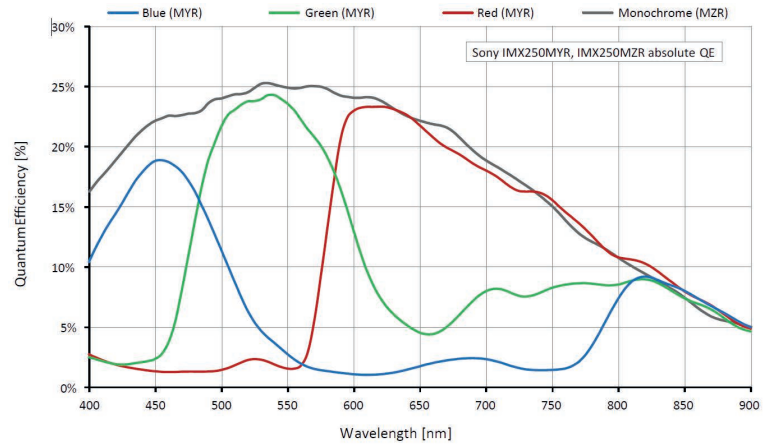
Benefits

- // Small form factor and low weight make Alvium polarizer cameras ideally suitable for OEM system designs:
 - Compact housed versions with popular 29 mm x 29 mm footprint
 - Bare board versions with a footprint of 26 mm x 26 mm for most-compact system designs
- // Multiple interface options for machine vision and embedded systems supported: GigE, 5GigE, USB3, as well as CSI-2 with GMSSL2 or FPD-Link 3 serial range extenders.
- // Extensive modular options provide high flexibility for design-ins. For example, C-, CS, and S-Mount, Alvium Frame & Flex, bare board cameras, or sensors without cover glass
- // A wide operating temperature range and on-board temperature monitoring secure you a reliable operation under varying conditions

Operating Conditions

Power requirements	Power over USB 3.1, PoE, or MIPI CSI-2 interface; External power via 5/12 VDC
Power consumption	≤ 2.9 W (CSI-2/USB3); < 7.0 W (5GigE)
Operating temperature	-20°C to +65°C (housing temperature)
Storage temperature	-30°C to +70°C (ambient)
Regulations Closed housing options:	Closed housing options: CE, FCC Class B, CAN ICES-3 (B), All options: RoHS

Quantum Efficiency



Our All-around Offering

At Allied Vision, you get more than just a great camera. We help you find the best imaging solution for your application. Our selected accessories such as optics and cables, ensure optimal performance. Our powerful VimbaX Software Development Kit (SDK) makes the camera integration easy whatever platform you use. And our technical support experts are at your side during system integration and for the whole lifetime of your cameras. Contact us! We will be pleased to advise you.

Applications

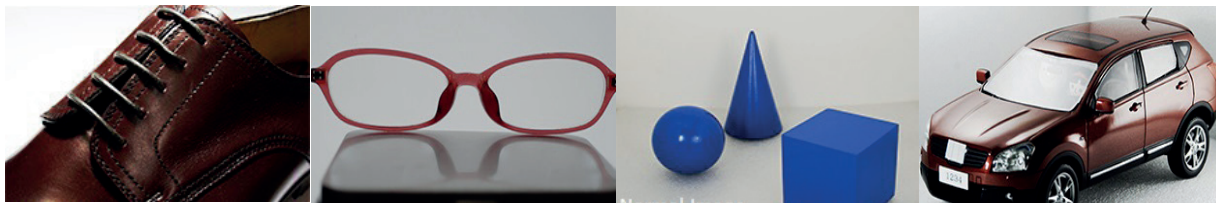


Figure 1-a: Normal image

Figure 2-a: Normal image

Figure 3-a: Normal image

Figure 4-a: Normal image

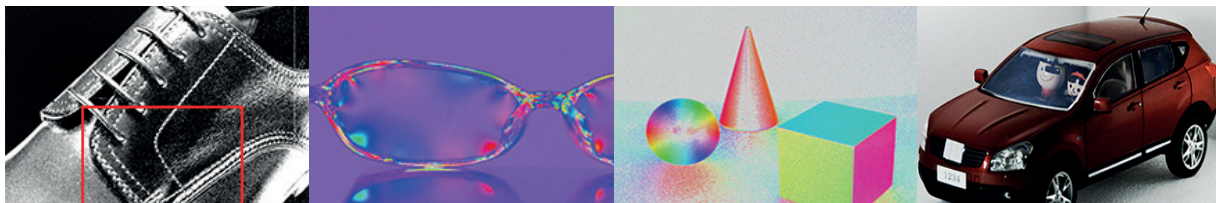


Figure 1-b: Degree of polarization image

Figure 2-b: Polarization direction image

Figure 3-b: Polarization direction image

Figure 4-b: Reflection removed image

Benefits of Sony's polarization technology:

- // Contrast enhancement by applying degree of polarization
- // Material stress detection by applying angle of polarization
- // Reduction of surface reflections

 **Allied Vision**

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