

// Alvium SWIR cameras

Game changing
short-wave infrared
imaging technology



Camera Highlights

Allied Vision's Alvium SWIR cameras are the smallest industrial-grade short-wave infrared (SWIR) imaging devices on the market ideally suitable to build extremely compact OEM systems for embedded and machine vision applications. The Alvium SWIR models incorporate innovative Sony SenSWIR InGaAs sensors supporting a wide spectral range from 400 nm to 1700 nm at high quantum efficiency. This allows you to image in the visible and SWIR spectrum with a single camera at lower overall system costs. No matter which interface you choose, industrial-grade Alvium SWIR cameras provide you a plug & play feeling whenever setting up your machine vision applications beyond the visible - independent if it's based on a PC or embedded system.

Model	Sensor	Sensor size	Pixel size	Resolution	Frame rate	Weight
Alvium C-030	IMX991 SenSWIR	Type 1/4	5 μm x 5 μm	0.3 MP (VGA) 656 (H) x 520 (V)	132 fps	max. 15 g (bare board) max. 50 g (open housing) max. 100 g (closed housing)
Alvium U-030					249 fps	
Alvium G1-030					249 fps	
Alvium C-130	IMX990 SenSWIR	Type 1/2	5 μm x 5 μm	1.3 MP (SXGA) 1296 (H) x 1032 (V)	69 fps	
Alvium U-130					130 fps	
Alvium G1-130					86 fps	
Alvium G5-130					130 fps	

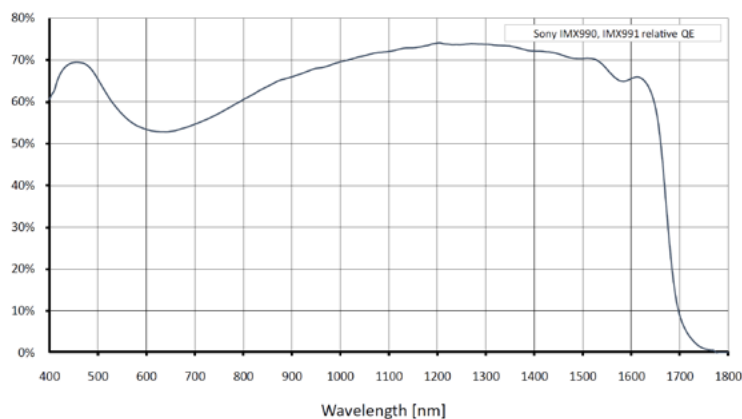
Benefits

- // Small form factor and low weight make Alvium SWIR 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
- // Extensive modular options provide high flexibility for design-ins. For example, C-, CS, and S-Mount, Alvium Frame and bare board cameras, or sensors without cover glass
- // Innovative digital InGaAs sensors with the industry's smallest pixels are precisely aligned in the camera to enable great image quality and maximum accuracy for your inspection system
- // High frame rates that can be increased by region of interest (ROI)
- // On-board Automatic Gain Control (AGC) and Contrast Control enhance your vision quality under challenging conditions, like seeing through dust or haze
- // A wide operating temperature range and on-board temperature monitoring secure you a reliable operation under diverse conditions

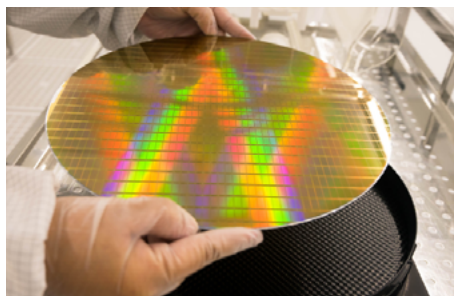
Operating Conditions

Power requirements	Power over USB 3.1, PoE, or MIPI CSI-2 interface; External power via 5/12 VDC
Power consumption	≤ 2.3 W (CSI-2/USB3); < 5.7 W (GigE)
Operating temperature	-20°C to +65°C (housing temperature)
Storage temperature	-30°C to +70°C (ambient)
Regulations	Closed housing options: CE, FCC Class
Pixel operability	> 99.5 %

Relative Quantum Efficiency



Applications



Alvium SWIR cameras are sensitive in the visible and the SWIR spectrum, and are well-suited for many typical SWIR applications in various industry branches:

- Semiconductor industry: Solar cell and chip inspection
- Agriculture: Multicopter-based spectral remote sensing
- Recycling industry: Material sorting of plastics, waste, and other materials
- Medical imaging & research: Hyper- and multi-spectral imaging
- Food industry: Quality inspection and grading
- Beverages industry: Fill level detection in opaque containers
- Packaging: Seal inspection
- Glass industry: Defect detection through hot glass
- Printing industry: Seeing hidden features
- Surveillance: Vision enhancement, for example, seeing through smoke or haze
- Security: Counterfeit detection such as for currency, faked hair, or skin