Allied Vision
a **TKH Vision** brand

// Alvium SWIR Cameras

High-resolution short-wave infrared cameras

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 Avium SWIR models incorporate innovative **2nd generation Sony SenSWIR InGaAs sensors** supporting a high resolutions up to 5 MP and fast frame rates. Their wide spectral range from 400 nm to 1,700 nm 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-530	IMX992 SenSWIR	Type 1/1.4	3.45 µm x 3.45 µm	5.3 MP 2592 (H) x 2056 (V)	84 fps	max. 15 g (bare board) max. 50 g (open housing) max. 100 g (closed housing)
Alvium U-530					77 fps	
Alvium G5-530					84 fps	
Alvium C-320	IMX993 SenSWIR	Type 1/1.8	3.45 µm x 3.45 µm	3.2 MP 2080 (H) x 1544 (V)	131 fps	
Alvium U-320					125 fps	
Alvium G5-320					131 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)

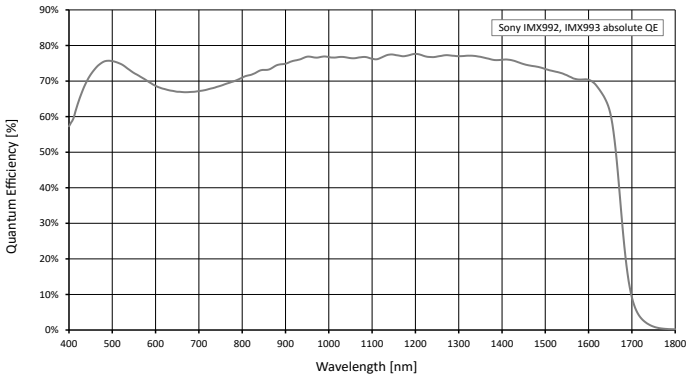
// On-board Automatic Gain Control (AGC) and Contrast Control enhance your vision quality under challenging conditions, like seeing through haze, fog, or smoke

// A wide operating temperature range and on-board temperature monitoring secure you a reliable operation under diverse conditions

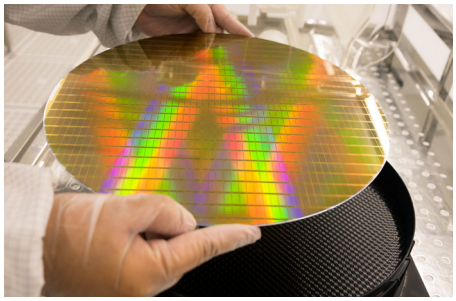
Operating Conditions

Power requirements	Power over USB 3.1, PoE, or MIPI CSI-2 interface; External power via 5/12 VDC
Power consumption	≤ 2.9 W (CSI-2/USB3); < 6.2 W (5GigE)
Operating temperature	-20°C to +65°C (housing temperature)
Storage temperature	-30°C to +70°C (ambient)
Regulations	Closed housing options: CE, FCC Class B, CAN ICES-3 (B), All options: RoHS
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

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