



## Alvium FP3-130 VSWIR

- IMX990 VSWIR sensor
- ALVIUM image processing
- FPD-Link III interface
- Various hardware options

Model without hardware options

### Alvium FP3: Benefit from greater flexibility in cable lengths

Robust CSI-2 based Alvium cameras with FPD-Link III interface

Alvium FP3 cameras with FPD-Link III (Flat Panel Display Link) interface have been designed to overcome the limitations of standard CSI-2 cameras. With a large choice of over 30 high-quality CMOS global and rolling shutter sensors Allied Vision is offering the broadest variety of FPD-Link III cameras in the market. The CSI-2 based closed housing cameras come with an integrated serializer, 2 GPIOs (General Purpose Input/Output) on the camera, and two rugged interface connectors to choose from.

To operate Alvium FP3 cameras on your vision system, Allied Vision provides different access modes:

- **GenICam for CSI-2 Access** controls the camera by GenICam features, using the Alvium CSI-2 driver and CSI-2 transport layer (TL) directly. Alvium FP3 models with equivalent 1800 C models are supported. Please find FAQs and installation instructions in the [Getting Started with GenICam for CSI-2](#) application note.
- **Direct Register Access (DRA)** to control the cameras via registers for advanced users.
- **Video4Linux2 Access** allows to control the cameras via established V4L2 API and applications like GStreamer and OpenCV. Open-source CSI-2 drivers are available on [GitHub](#) for different boards and system on chips (SoCs).

In addition to lens mount and housing options, see [Customization and OEM Solutions webpage](#) for additional options.

## Specifications

Interface	FPD-Link III, based on MIPI CSI-2, up to 4 lanes
Resolution	1296 (H) × 1032 (V)
Spectral range	400 to 1700 nm
Sensor	Sony IMX990   InGaAs
Sensor type	InGaAs
Shutter mode	GS (Global shutter)
Sensor size	Type 1/2 VSWIR
Pixel size	5 μm × 5 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
Max. frame rate at full resolution	Mainly depends on hardware and register settings
ADC	12 Bit
Image buffer (RAM)	256 KByte
Non-volatile memory (Flash)	1024 KByte

## Output

Bit depth	8-bit, 10-bit, 12-bit; Adaptive (10-bit, 12-bit)
Monochrome pixel formats	PFNC: Mono8 (default), Mono10, Mono10p, Mono12, Mono12p   CSI-2: RAW8 (default), RAW10, RAW12   FOURCC: GREY, Y10, Y12

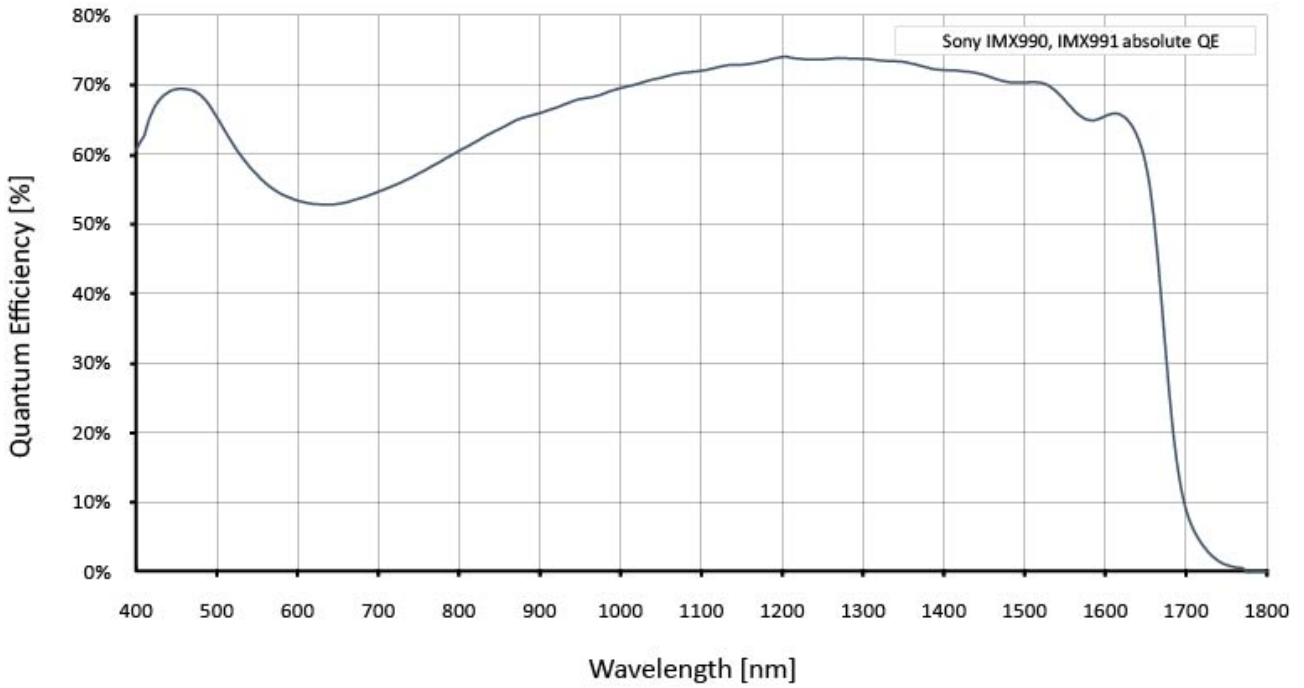
## General purpose inputs/outputs (GPIOs)

TTL I/Os	2 programmable GPIOs
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## Operating conditions/dimensions

Operating temperature	-20 °C to +65 °C (housing)
Power requirements (DC)	5 VDC over MIPI CSI-2
Power consumption	Value for the integrated serializer adds to CSI-2 model value.
Mass	70 g
Body dimensions (L × W × H in mm)	41 × 29 × 29

## Quantum efficiency



## Features

### Image control: Auto

- Auto exposure
- Auto gain

### Image control: Other

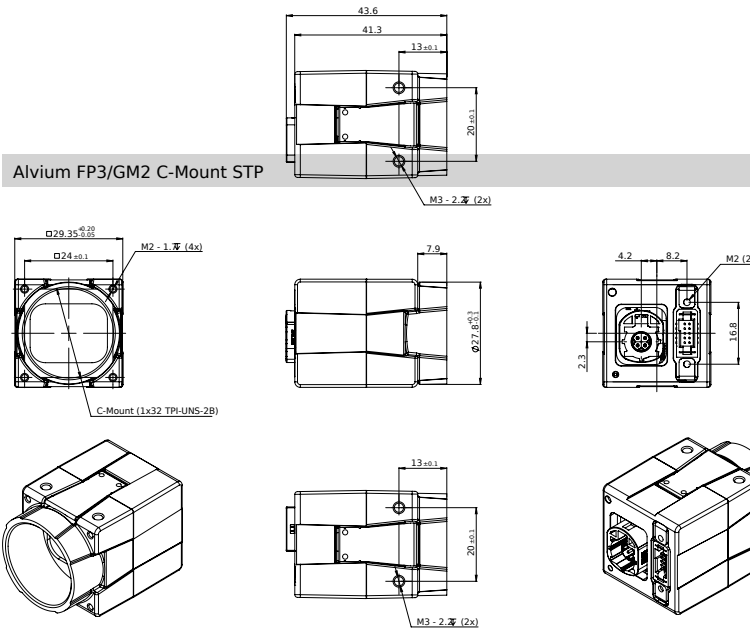
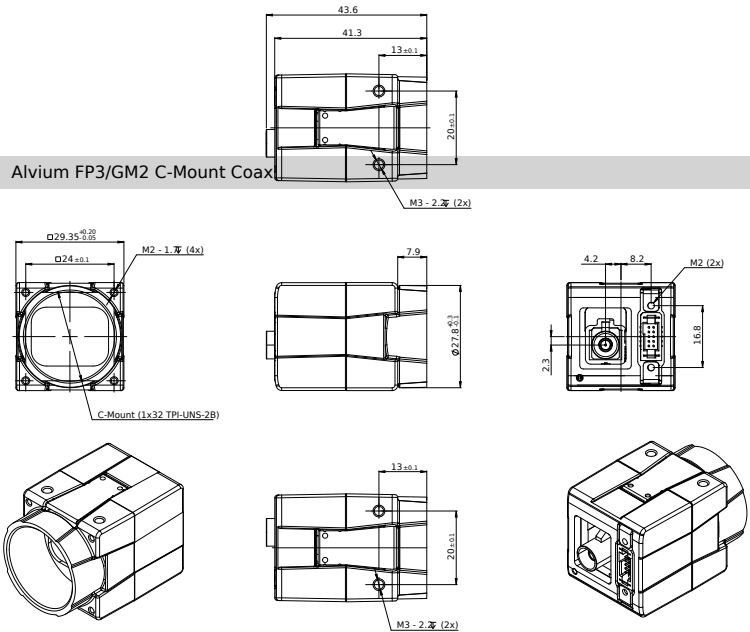
- Adaptive noise correction\*
- Binning (digital)
- Black level
- Contrast\*
- Custom convolution\*
- DPC (defect pixel correction)
- Gamma
- Lens shading correction\*
- LUT (look-up table)\*
- Reverse X/Y
- ROI (region of interest)
- Sharpness/Blur\*

### Camera control

- Acquisition frame rate
- Counters and timers\*
- Firmware update in the field
- I/O and trigger control
- Image chunk data\*
- Readout modes (SensorBitDepth)\*
- Serial I/Os\*
- Temperature monitoring
- User sets\*

\*GenICam for CSI-2 Access

## Technical drawing



## Applications

Alvium FP3-130 VSWIR 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
- Recycling industry: Plastic sorting

- Medical imaging, sciences: Hyper- and multi-spectral imaging
- Glass industry: Defect detection through hot glass
- Agriculture industry: Airborne remote sensing
- Printing industry: Seeing hidden features
- Surveillance: Vision enhancement (for example, seeing through fog or haze)
- Security: Counterfeit detection (such as for money, faked hair, or skin)