Alvium
FP3-130 VSWIR Coax

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

Model without hardware options

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

Machine vision sensors for embedded system developers

Alvium FP3 Coax cameras with FPD-Link III (Flat Panel Display Link) interface have been designed to overcome the limitations of standard CSI-2 cameras. The closed housing CSI-2 based cameras come with integrated serializer and a rugged coaxial-based FAKRA connector for thin coax cables. With Alvium FP3 Coax, cable lengths up to 15 meters are possible. The coax cable can also be used to power the camera (Power over coax) enabling a single cable solution.

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. All Alvium FP3 Coax 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 systems on chip (SoCs).

In addition to lens mount and housing options, see Customization and OEM Solutions webpage for additional options.

Allied Vision

Specifications

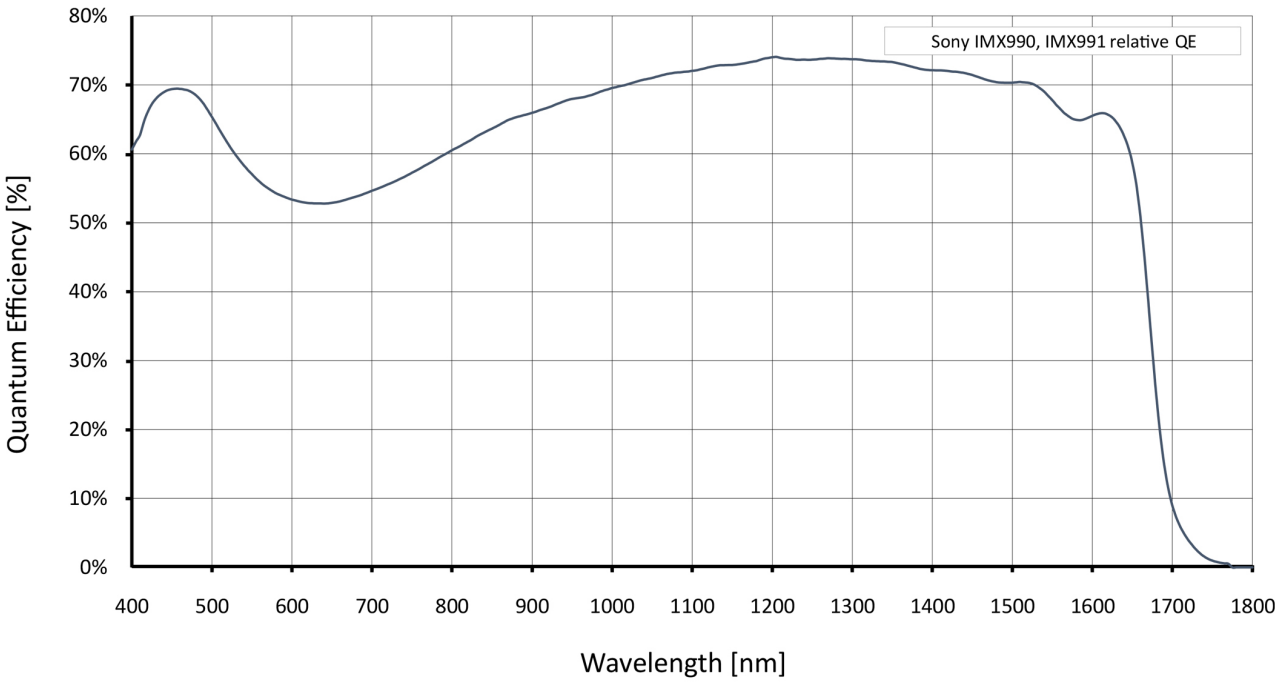
Interface	FPD-Link III, based on MIPI CSI-2, up to 4 lanes
Resolution	1296 (H) × 1032 (V)
Spectral range	400 to 1700 nm
Sensor	Sony IMX990 | InGaAs
Sensor type	InGaAs
Shutter mode	GS (Global shutter)
Sensor size	Type 1/2 VSWIR
Pixel size	5 µm × 5 µm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
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	12-bit
Raw pixel formats	RAW8 (GREY), RAW10 (Y10), RAW12 (Y12) [MIPI CSI-2 (FOURCC)]

General purpose inputs/outputs (GPIOs)	
TTL I/Os	2 programmable GPIOs

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

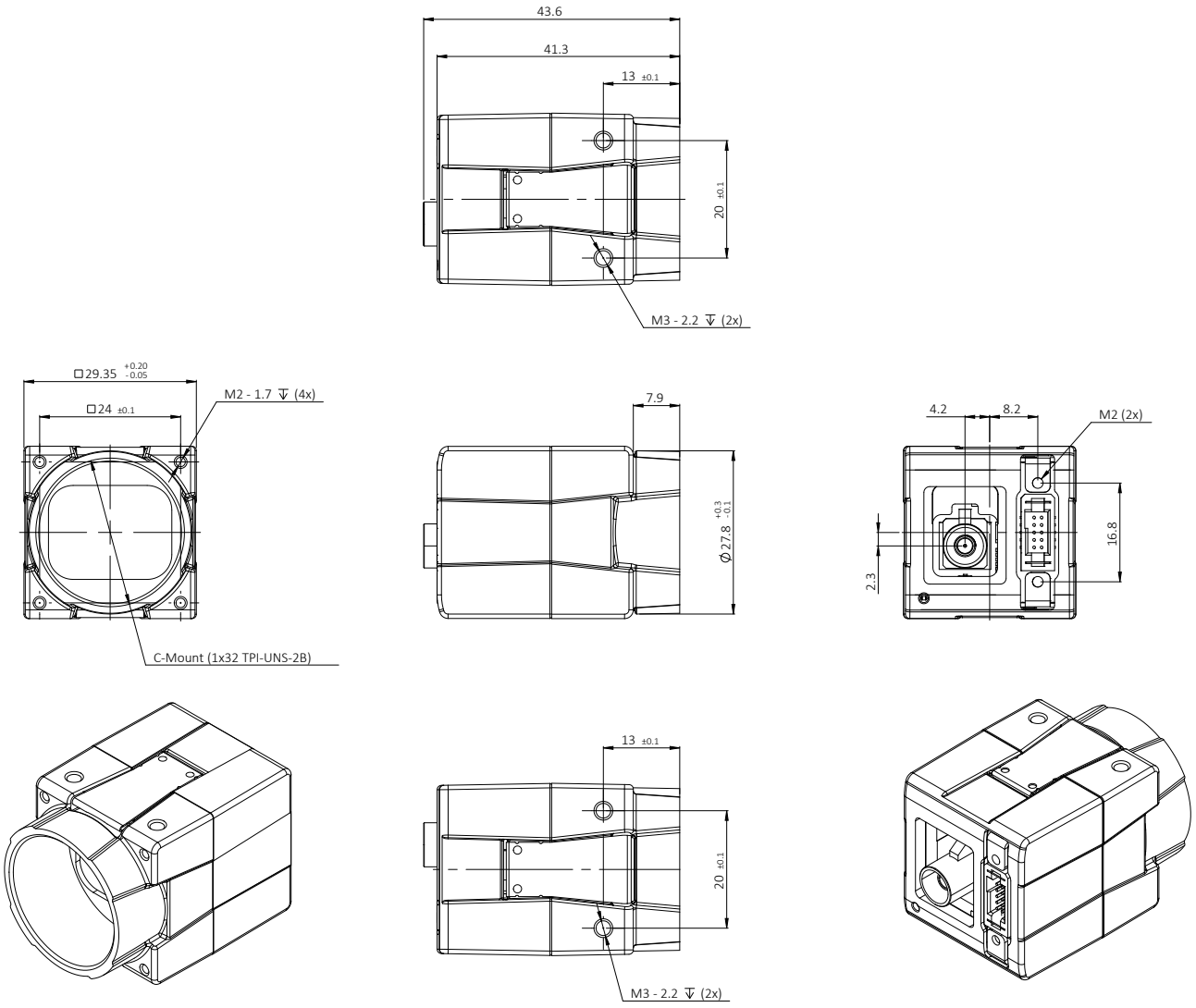
Image control: Other

- Black level
- DPC (defect pixel correction)
- Gamma
- Reverse X/Y
- ROI (region of interest)

Camera control

- Acquisition frame rate
- Firmware update in the field
- I/O and trigger control
- Temperature monitoring

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)