







• IMX422 CMOS sensor

- 2.0 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

Benefit from greater flexibility in cable lengths

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: - **GenlCam for CSI-2 Access** controls the camera by GenlCam 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 GenlCam 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.



Specifications

| Interface | FPD-Link III, based on MIPI CSI-2, up to 4 lanes |
|------------------------------------|---|
| Resolution | 1632 (H) × 1248 (V) |
| Spectral range | 300 to 1100 nm |
| Sensor | Sony IMX422 |
| Sensor type | CMOS |
| Shutter mode | GS (Global shutter) |
| Sensor size | Туре 1/1.7 |
| Pixel size | 4.5 μm × 4.5 μm |
| Lens mounts (available) | C-Mount, CS-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, Mono10, Mono10p, Mono12, Mono12p |
| YUV color pixel formats | PFNC: YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr CSI-2: YUV422 8-bit FOURCC: UYVY |
| RGB color pixel formats | PFNC: RGB8 (default), BGR8 CSI-2: RGB888 (default) FOURCC: RGB3 |
| Raw pixel formats | PFNC: BayerRG8, BayerGR10, BayerRG10p, BayerGR12, BayerRG12p CSI-2: RAW8, RAW10, RAW12 FOURCC: GREY, Y10, Y12 |

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 \times W \times H in mm) 41 \times 29 \times 29

Features

Image control: Auto

- Auto exposure
- Auto gain
- Auto white balance (color models)

Image control: Other

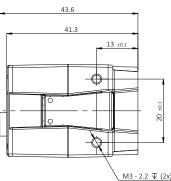
- Black level
- Color transformation (incl. hue, saturation; color models)
- De-Bayering up to 5×5 (color models)
- DPC (defect pixel correction)
- Gamma
- Reverse X/Y
- ROI (region of interest)

Camera control

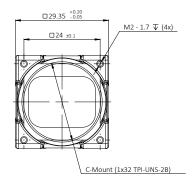
- Acquisition frame rate
- Firmware update in the field
- I/O and trigger control
- Temperature monitoring

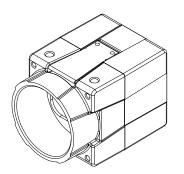


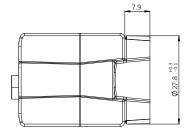
Technical drawing











13 ±0.1

20 ±0.1

M3 - 2.2 ∓ (2x)

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