



Alvium FP3-501 NIR Coax

- AR0522 CMOS sensor
- 5.0 MP resolution
- ALVIUM image processing
- FPD-Link III interface
- Mono and color models

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.

The standardized CSI-2 driver ensures quick integration with the flexibility to change camera models easily.

To operate Alvium FP3 cameras on your vision system, Allied Vision provides different access modes: - **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 | 2592 (H) × 1944 (V) |
| Spectral range | 300 to 1100 nm |
| Sensor | ON Semi AR0522 |
| Sensor type | CMOS |
| Shutter mode | RS (Rolling shutter) |
| Sensor size | Type 1/2.5 |
| Pixel size | 2.2 μm × 2.2 μm |
| Lens mounts (available) | C-Mount, CS-Mount, S-Mount 68 |
| Max. frame rate at full resolution | Mainly depends on hardware and register settings. |
| ADC | 10 Bit |
| Image buffer (RAM) | 256 KByte |
| Non-volatile memory (Flash) | 1024 KByte |

Output

| | |
|-------------------------|--|
| Bit depth | 10-bit |
| YUV color pixel formats | YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)] |
| RGB color pixel formats | RBG888 (RGB3) [MIPI CSI-2 (FOURCC)] |
| Raw pixel formats | RAW8 (GREY), RAW10 (Y10) [MIPI CSI-2 (FOURCC)] |

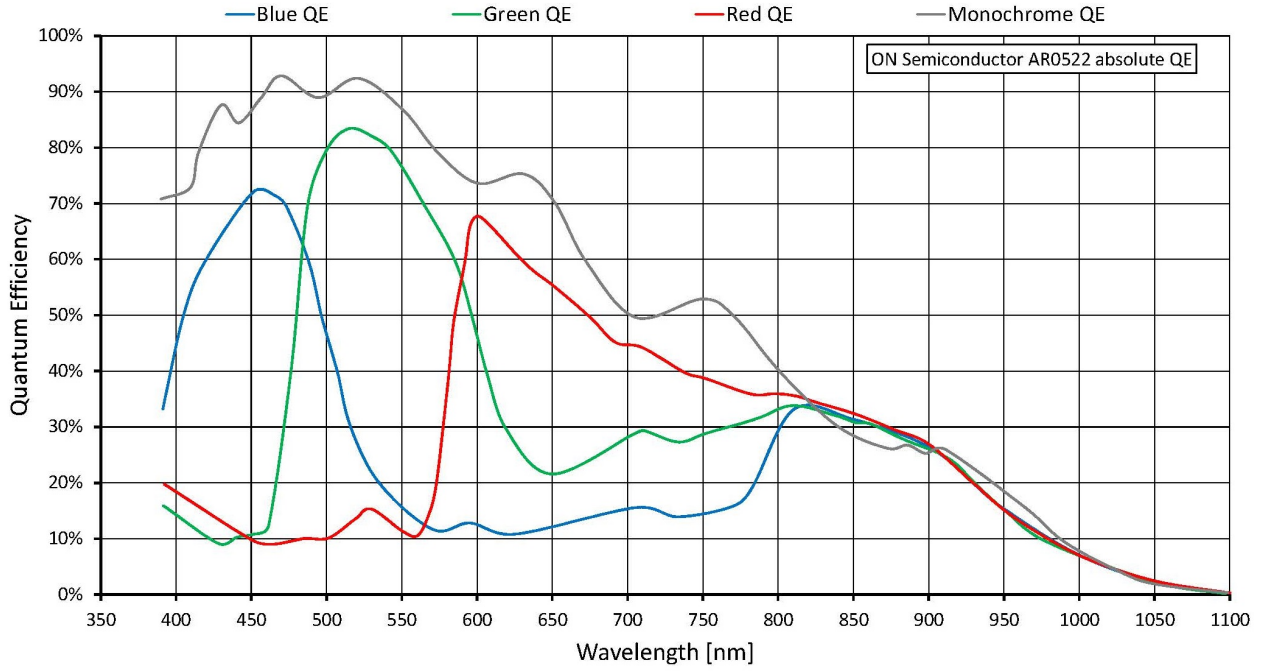
General purpose inputs/outputs (GPIOs)

| | |
|----------|----------------------|
| 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 x 29 x 29 |

Quantum efficiency



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)
- FPNC (fixed pattern noise 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

