Robust CSI-2 based Alvium cameras with GMSL2 interface
Benefit from greater flexibility in cable lengths

Alvium GM2 STP cameras with GMSL2 (Gigabit Multimedia Serial 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 HSD STP connector for cable lengths up to 8 meters. This connection can also be used to power cameras (Power over STP), enabling single cable solutions.

To operate Alvium GM2 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 GM2 STP 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.
### Specifications

**Interface**
- GMSL2, based on MIPI CSI-2, with up to 4 lanes

**Resolution**
- 656 (H) x 520 (V)

**Spectral range**
- 400 to 1700 nm

**Sensor**
- Sony IMX991 | InGaAs

**Sensor type**
- InGaAs

**Shutter mode**
- GS (Global shutter)

**Sensor size**
- Type 1/4 VSWIR

**Pixel size**
- 5 µm x 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 x W x H in mm)**
- 41 x 29 x 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
Applications

Alvium GM2-030 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)