



# Alvium

## 1800 U-1620

- IMX542 CMOS sensor
- ALVIUM image processing
- USB3 Vision
- Various hardware options

### Model without hardware options

Alvium 1800 U – Your entry into high-performance imaging

Industrial USB cameras with attractive price-performance ratio

Alvium 1800 U-1620 with Sony IMX542 runs 22.0 frames per second at 16.2 MP resolution.

Alvium 1800 U is your entry into high-performance imaging with ALVIUM® Technology for industrial applications. Equipped with the newest generation of sensors, these small and lightweight cameras deliver high image quality and frame rates at the best price-performance ratio. With its USB3 Vision compliant interface and industrial-grade hardware, it is your workhorse for different machine vision applications whether it is on a PC-based or an embedded system.

Easy software integration with [Allied Vision's Vimba Suite](#) and compatibility to the most popular third party image-processing libraries.

See the [Alvium Cameras Hardware Options](#) for lens mount and housing options, as well as the [Customization and OEM Solutions webpage](#) for additional options.

## Specifications

Alvium 1800 U-1620	
Interface	USB3 Vision
Resolution	5328 (H) × 3040 (V)
Spectral range	300 to 1100 nm

<b>Alvium 1800 U-1620</b>	
Sensor	Sony IMX542
Sensor type	CMOS
Shutter mode	Global shutter
Sensor size	Type 1.1
Pixel size	2.74 $\mu\text{m}$ $\times$ 2.74 $\mu\text{m}$
Lens mounts (available)	C-Mount
Max. frame rate at full resolution	22 fps at 375 MByte/s, Mono8
ADC	12 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
<b>Output</b>	
Bit depth	Max. 12 Bit
Monochrome pixel formats	Mono8, Mono10, Mono10p, Mono12, Mono12p
YUV color pixel formats	YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr
RGB color pixel formats	BayerRG8, BayerRG10, BayerRG10p, BayerRG12, BayerRG12p, BGR8, RGB8 (default)
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	4 programmable GPIOs
<b>Operating conditions/dimensions</b>	
Operating temperature	+5 °C to +65 °C housing temperature (with heat sink)
Power requirements (DC)	Power over USB 3.1 Gen 1   External power 5.0 V
Power consumption	USB power: 4.0 W (typical)   Ext. power: 4.2 W (typical)
Mass	15 g (bare board)
Body dimensions (L $\times$ W $\times$ H in mm)	14 $\times$ 26 $\times$ 26 (bare board, standard), 14 $\times$ 30 $\times$ 26 (bare board, 90°)
Regulations	2011/65/EU, including amendment 2015/863/EU (RoHS)

## Quantum efficiency



## Features

### Image control

#### Auto control

- Auto exposure
- Auto gain
- Auto white balance (color models)
- Auto features regions control
- Auto features algorithms control

#### Other image controls

- Binning
- Black level
- Contrast
- De-Bayering up to 5×5 (color models)

- Exposure time
- Gain
- Gamma
- Hue (color models)
- Saturation (color models)
- DPC (factory calibrated)
- FPNC (factory calibrated)
- Region of interest (ROI)
- Reverse X/Y

## Camera control

- Acquisition frame rate
- I/O and trigger control
- Temperature monitoring (sensor board)
- Status LED luminance control
- Firmware update in the field
- U3 Power Saving Mode

## Technical drawing

### Camera hardware options



The **Alvium Cameras Hardware Options** document informs about submodels, such as bare board or open housing cameras with different lens mounts.

