

# CMOS-USB3.1 GEN 1 CAMERA

## Product family high-resolution high-end Camera

UK39395-M

12 MegaPixel / monochrome



### Description

The Microscopy Camera UK39395 is a high-resolution CMOS camera adapted to the tasks in industrial and scientific image processing. It belongs to a family of high-end CMOS cameras from ABS GmbH, which are available with different equipment features for a variety of applications. Typical fields of application for the highly light-sensitive camera include high-resolution microscopy and measurement technology, as well as its use as a high-quality surveillance and documentation camera. The high framerate in combination with the excellent resolution of the camera results in a pleasant, easy and effective working environment regarding microscopy or laboratory tasks.

By using a sensor with Pregius™ and Exmor™ CMOS technology, the best signal-to-noise ratios are achieved even under unfavorable lighting conditions. The thermal stabilization of the image sensor using TEC allows extremely low-noise images in conjunction with high sensitivity and best image quality. By using the USB3.1 standard, the camera does not require an additional power supply. The active cooling with specially adapted housing construction allows the permanent cooled operation without the use of an additional fan.

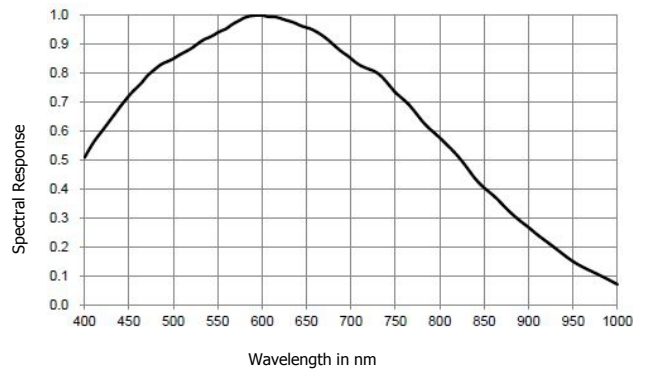
Optionally, the camera can also be supplied with opto-decoupled, digital outputs and inputs, which allow the use of the camera even in harsh industrial environments. The fast USB3.1 interface of the camera allows the transmission of uncompressed live images at full 12 megapixel sensor resolution with a maximum of 30 frames per second. Operating in specific binning modes, the camera can be operated at a higher frame rate and sensitivity at the expense of lateral resolution.

### Fields of application

- Applications with unfavorable lighting conditions
- Highly photosensitive microscopy or measurement camera
- Brightfield and darkfield, fluorescence microscopy
- Applications with extremely low readout noise
- Long exposure, low-light applications
- Scientific imaging and laboratory technology
- Autonomously working intelligent optical sensor
- Demanding industrial applications

### Spectral response of the sensor

UK39395-M (monochrom)



### Technical specification

Sensor	1.1", CMOS monochrome
Sensor resolution	4112 x 3000 pixels, 17 mm diagonal
Sensor pixel size	3,45 µm × 3,45 µm
Frame rate camera using USB3.1	30 fps 8 Bit Full resolution 19 fps 12 Bit Full resolution 120 fps 8 Bit 2x2 Binning (2056 x 1500) 72 fps 12 Bit 2x2 Binning (2056 x 1500)
Shutter	Global Shutter
Exposure time	1µs - 300 s (5 min)
ADC resolution	8 bit / 10 bit / 12 bit
Gain	1x - 16x
Read out noise	< 3 e <sup>-</sup>
Full Well Capacity	10,8 ke <sup>-</sup>
Data Interface	USB3.1 Gen 1
Power Supply	USB bus powered – USB Cable Typ e C
Power consumption	Typ. 6,0 W
Operating temperature	+ 0 °C to + 55 °C
Temperature stabilization	18 °C sensor temperature via TEC
Storage temperature	-20 °C to + 70 °C
Dimensions	89,0 x 90,3 x 64 mm <sup>3</sup>
Weight	approx. 1,2 kg
Additional function	Temperaure stabilization via TEC
Optional	<ul style="list-style-type: none"> <li>▪ adjustable lens mount for compensation of sensor tilt</li> <li>▪ digital input 2x opto-decoupled (free programmable) 1x TTL trigger input (fast)</li> <li>▪ digital output 2x opto-decoupled (programm. as strobe)</li> </ul>

### Assembly dimensions

