

# pco.

An Excelitas Technologies Brand

resolution  
**6.2 MPixel**

pixel size  
**5  $\mu\text{m}$  x 5  $\mu\text{m}$**

interface  
**USB 3.1 Gen 1**



## pco.edge 6.2 LE

long exposure **sCMOS** camera

- **wide exposure time range** 1 ms up to 3600 s
- **high resolution** 2496 x 2496 pixel
- **extremely low dark current** 0.3 e<sup>-</sup>/pixel/s
- **temperature-stabilized image sensor** down to -20 °C
- **true charge domain** global shutter
- **minimum glow** modification

**EXCELITAS**  
TECHNOLOGIES

## technical data

### image sensor

sensor technology	sCMOS
color type	monochrome
resolution (horizontal x vertical)	2496 pixel x 2496 pixel
pixel size (horizontal x vertical)	5 $\mu\text{m}$ x 5 $\mu\text{m}$
sensor size (horizontal x vertical)/diagonal	12.5 mm x 12.5 mm/17.7 mm
shutter type	global shutter
modulation transfer function (theoretical max)	50 lp/mm
fullwell capacity <sup>1</sup>	12,000 e <sup>-</sup>
readout noise (typ)	3.7 e <sup>-</sup> rms
dynamic range (intra-scene)	1:3200 (70 dB)
peak quantum efficiency	63 % @ 500 nm
spectral range	320 nm to 1000 nm
dark current	0.3 e <sup>-</sup> /pixel/s @ -10 °C sensor temperature
anti-blooming factor	>10,000
parasitic light sensitivity	1:10,000

### camera

max. frame rate @ full resolution	6 fps
exposure time range	1 ms to 3600 s
dynamic range A/D	14 bit
conversion factor <sup>2</sup>	0.75 e <sup>-</sup> /DN
pixel rate	47 MPixel/s
region of interest (ROI) horizontal	steps of 8 pixel (min. 24)
region of interest (ROI) vertical	steps of 2 pixel (min. 8)
binning horizontal	x2, x4 pixel (digital)
binning vertical	x2, x4 pixel (digital)
non-linearity	< 0.6 %
dark signal non-uniformity (DSNU)	< 1.2 e <sup>-</sup> rms
photo response non-uniformity (PRNU)	< 0.5 %
cooling temperature image sensor	adjustable from -20 °C to +20 °C calibration setpoint: -10 °C
cooling method	thermo-electrical cooling in combination with forced air (fan) and water cooling (optional)
trigger input signals	frame trigger, sequence trigger, programmable input (SMA connectors)
trigger output signals	exposure, busy, programmable output (SMA connectors)
time stamp	in image (1 $\mu\text{s}$ resolution)
data interface	USB 3.1 Gen 1

<sup>1</sup> Corresponds in EMVA1288 to saturation capacity.

<sup>2</sup> According to EMVA1288 the conversion factor equals the inverse of the system gain and can be operational mode dependent.

## technical data

### general

power supply	power through USB 3.1 Gen 1 and power connector (24 VDC $\pm$ 10 %)
power consumption	22 W max (10 W typ) through power connector and 4.5 W typ through USB 3.1 Gen 1
weight	970 g
dimensions (height x width x length)	85 mm x 80 mm x 109 mm
operating temperature range	+10 °C to +40 °C
operating humidity range (non-condensing)	10 % to 80 %
storage temperature range	-10 °C to +60 °C
max cable length	5 m
CE/FCC certified	yes

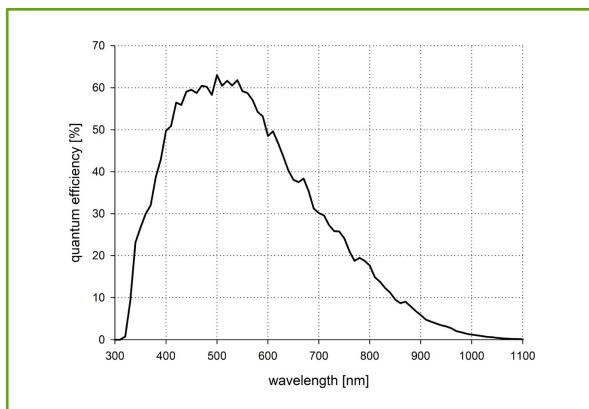
### frame rate table

2496 x 2496	6 fps
2496 x 1024	15 fps
2496 x 512	30 fps
2496 x 256	59 fps
1920 x 1080	14 fps
1600 x 1200	12 fps
1280 x 1024	15 fps
640 x 240	62 fps

### optical interface

direct mounting	6.2 mm $\pm$ 10 %
lens mounting	C-mount
optional lens mounting	F-mount, TFL-mount

### quantum efficiency



## technical data

### software

Our main camera control software pco.camware is the first choice to get started with your camera. It enables full control of all camera settings and makes image acquisition and storage very easy.

**Your use case is in the field of microscopy:**

PCO cameras are also integrated in  $\mu$ Manager.

**You want to create your own application for the camera:**

We offer a wide range of Software Development Kits (SDK) for different programming languages, both for windows and linux. pco.sdk, pco.recorder and our high-level SDK are designed for C/C++ apps. With pco.csharp, pco.python, pco.matlab, pco.labview and pco.java you can control the camera in your C#, python, matlab, labview and java applications, respectively.

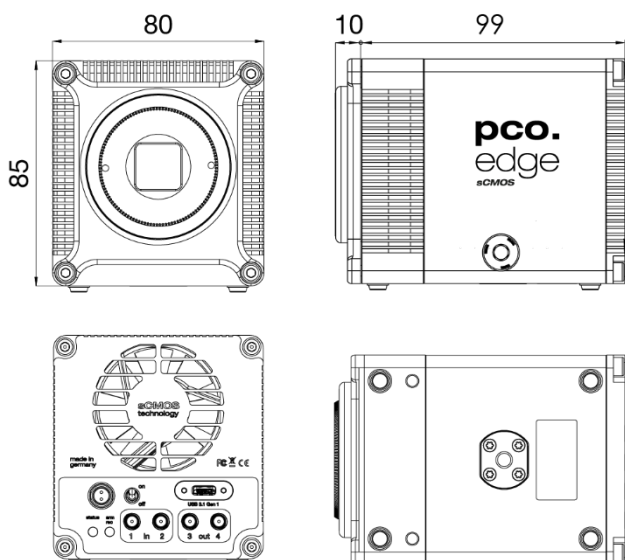
**You are using a different software:**

PCO cameras are also integrated in a variety of microscopy and high-speed software applications, like FalCon eXtra, Leica LAS X Life Science, NIS-Elements, VisiView and many more.

Check our homepage to find a list of all applications that support PCO cameras.



### dimensions



All dimensions are given in mm. Lens mount adapters are changeable. Detailed drawings are available at [www.pco.de](http://www.pco.de) on request.

## application areas

- bio-luminescence ■ chemo-luminescence ■ fluorescence microscopy ■ spectroscopy ■ hyperspectral imaging ■ ccd successor
- ion imaging ■ electron imaging ■ electron microscopy ■ phase contrast microscopy ■ astronomy ■ low-light imaging

## about Excelitas Technologies

PCO, an Excelitas Technologies® Corp. brand, is a leading specialist and Pioneer in Cameras and Optoelectronics with more than 30 years of expert knowledge and experience of developing and manufacturing high-end imaging systems. The company's cutting edge sCMOS and high-speed cameras are used in scientific and industrial research, automotive testing, quality control, metrology, and a large variety of other applications all over the world.

As part of Excelitas Technologies, PCO represents a world-renowned brand of high-performance scientific CMOS, sCMOS, CCD and high-speed cameras that complement Excelitas' expansive range of illumination, optical and sensor technologies and extend the bounds of our end-to-end photonic solutions capabilities.