pco.edge 26

global shutter **sCMOS** camera

1288
EMVA Standard Compliant

pco.

technical specifications

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» sCMOS image sensor

type of sensor	global shutter scientific CMOS (sCMOS) monochrome
resolution (h x v)	5120 x 5120 active pixel
pixel size (h x v)	2.5 µm x 2.5 µm
sensor format / diagonal	12.8 mm x 12.8 mm / 18.1 mm
shutter mode	global/snapshot shutter (GS)
MTF	200 lp/mm (theoretical)
fullwell capacity	4500 e^-
readout noise (typ.)[1]	2.3 $_{med}$ e^- / 2.5 $_{rms}$ e^-
dynamic range (typ.)	66 dB
quantum efficiency	72 %
spectral range	320 nm .. 1000 nm
dark current (typ.)	0.09 e^-/pixel/s @ -10 °C
DSNU	< 1 e^- rms
PRNU	< 0.9 %
parasitic light sensitivity	1/10000

» camera system

frame rate	7.1 fps @ full resolution
exposure / shutter time	5 µs .. 60 s
dynamic range A/D	12 bit
A/D conversion factor	1.4 e^-/DN
pixel data rate	267 Mpixel/s
binning horizontal	x1, x2, x4
binning vertical	x1, x2, x4
region of interest (ROI)	horizontal: steps of 32 pixel (min. 32) vertical: steps of 1 pixel (min. 8)
non linearity	< 0.6 %
cooling method	adjustable: from - 20 °C to + 20 °C peltier with forced air (fan) and water cooling calibration setpoint: - 10 °C
trigger input signals	frame trigger, sequence trigger, programmable input (SMA connectors)
trigger output signals	exposure, busy, programmable output (SMA connectors)
data interface	USB 3.1 Gen 1
time stamp	in image (1 µs resolution)

[1] The readout noise values are given as median (med) and root mean square (rms) values, due to the different noise models, which can be used for evaluation. All values are raw data without any filtering.

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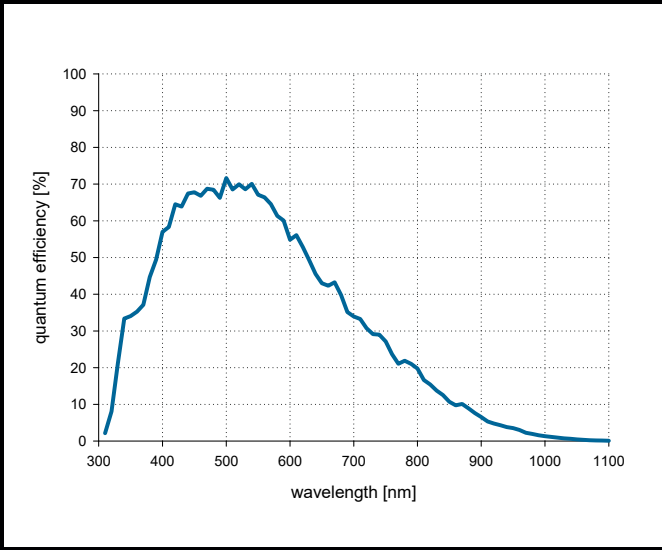
» general

power delivery	power over USB 3.1 Gen 1 and power connector (24 VDC +/- 10 %)
power consumption	22 W max. (typ. 10 W) over power connector and typ. 4.5 W over USB 3.1 Gen 1
weight	970 g
operating temperature	+ 10 °C .. + 40 °C
operating humidity range	10 % .. 80 % (non-condensing)
storage temperature range	- 10 °C .. + 60 °C
optical interface	F-mount, C-mount
CE / FCC certified	yes

» quantum efficiency



» frame rate table

5120 x 5120	7.1 fps
5120 x 1024	35.6 fps
5120 x 512	70.9 fps
5120 x 256	141.1 fps
5120 x 128	279.0 fps
1920 x 1080	33.7 fps
1600 x 1200	30.4 fps
1280 x 1024	35.6 fps
640 x 480	75.7 fps
320 x 240	150.4 fps

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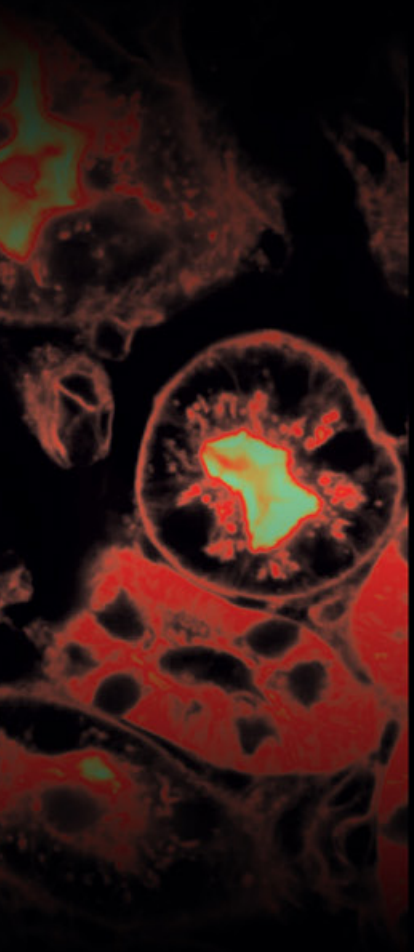
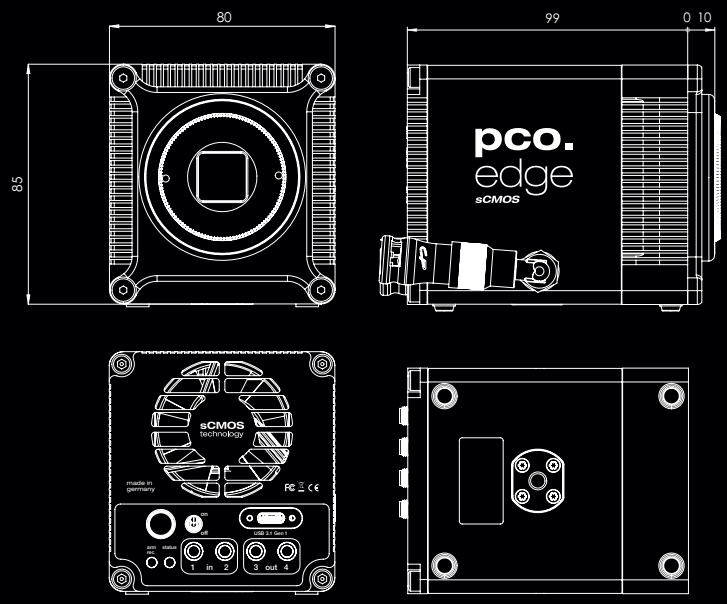


» benefits

anti-vibration technology with AlphaGEL®
sealed electronics for dust & dirt protection
optimized airflow with 3 seperate intakes
spider-less mounting with only 6.18 mm to image plane

» dimensions



F-mount and C-mount lens adapter are changeable. All dimensions are given in millimeter.

» camera view

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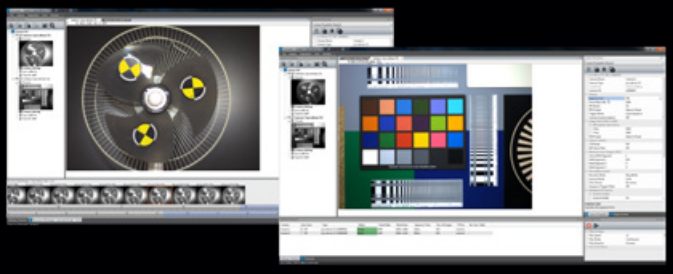
» applications

brightfield microscopy | fluorescence microscopy | digital pathology | light sheet fluorescence microscopy (LSFM) | structured illumination microscopy (SIM) | high-speed bright field ratio imaging | high throughput screening | high content screening | biochip reading | spinning disk confocal microscopy | 3D metrology | industrial quality inspection

» software



With pco.camware you control all camera settings, the image acquisition and the storage of your image data. The pco.sdk is the complementary software development kit. It includes dynamic link libraries for user customization and integration on Windows-PC platforms. Drivers for popular third party software packages are also available for you.

All this items like pco.camware, pco.sdk and third party drivers, are free-to-download at www.pco.de.

» third party integrations

LabVIEW | MathWorks | µ-Manager

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for application stories please visit our website

ISO 9001:2015

subject to changes without prior notice | lens is sold seperately
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