

pco.edge 26

global shutter sCMOS camera



**true
charge domain
global shutter**

**deep cooled
down to -20° C**

**compact
design**

appropriate for
**long exposure
times**

high resolution
5120 x 5120 pixel

pco.
edge
sCMOS

1288 
EMVA Standard Compliant

pco.

» 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, line, programmable output (SMA connectors) |
| data interface | USB 3.1 Gen 1 |
| time stamp | in image (1 μs resolution) |

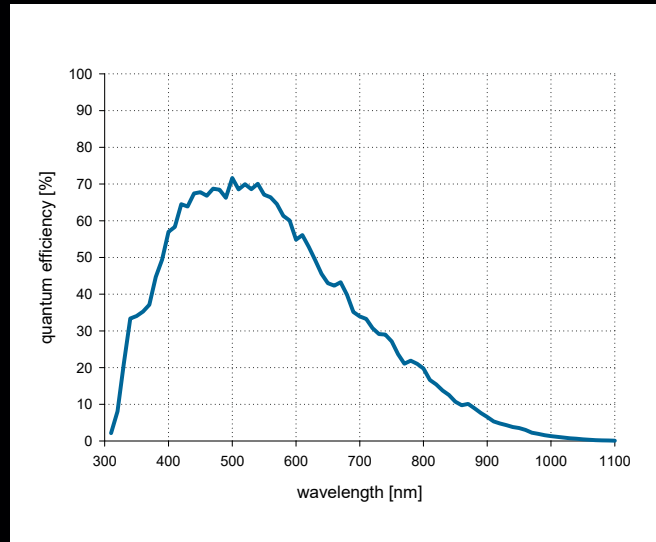
¹ The readout noise values are given as median (med) and root mean square (rms) values, due to the different noise models, which can be used for evaluation. All values are raw data without any filtering.



» 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 |

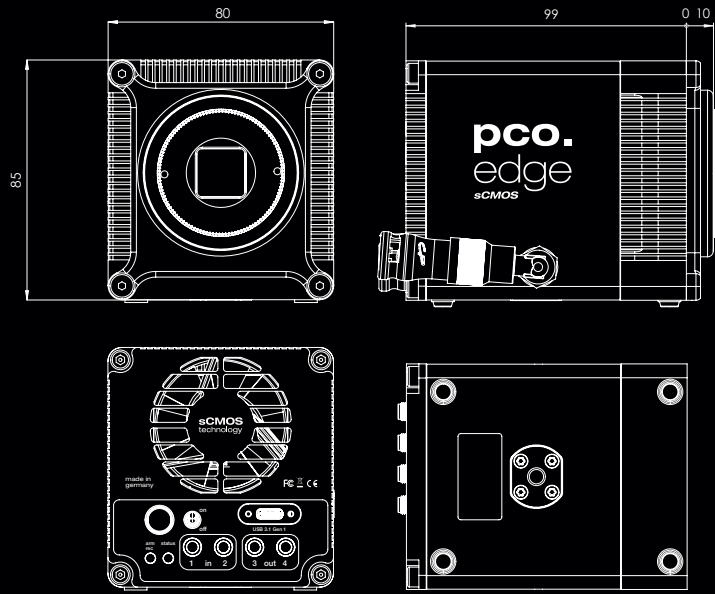
» quantum efficiency



» 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 |

» dimensions



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

» camera view



» 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



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subject to changes without prior notice | lens is sold separately
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