

# pco.panda 26

ultra compact global shutter  
sCMOS camera

available in  
**mono and color**

**dust-protected**  
housing

**65 mm**

**ultra**  
**compact**  
design

**high resolution**  
5120 x 5120 pixel



**single cable solution**  
data & power supply via USB 3.1

true charge domain  
**global shutter**

**1288**   
EMVA Standard Compliant

# pco.

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» sCMOS image sensor

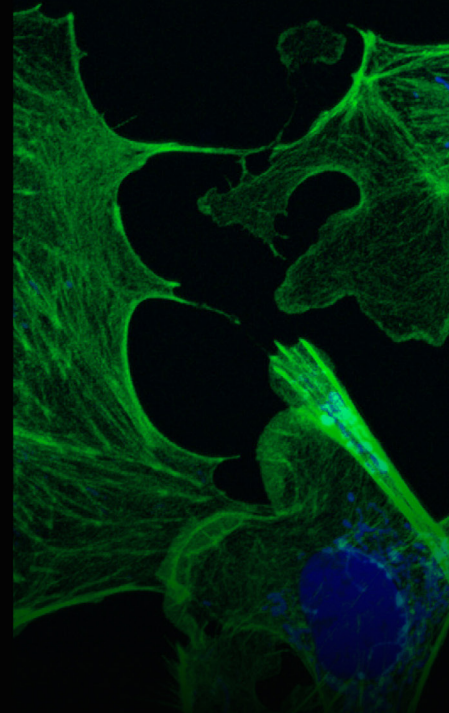
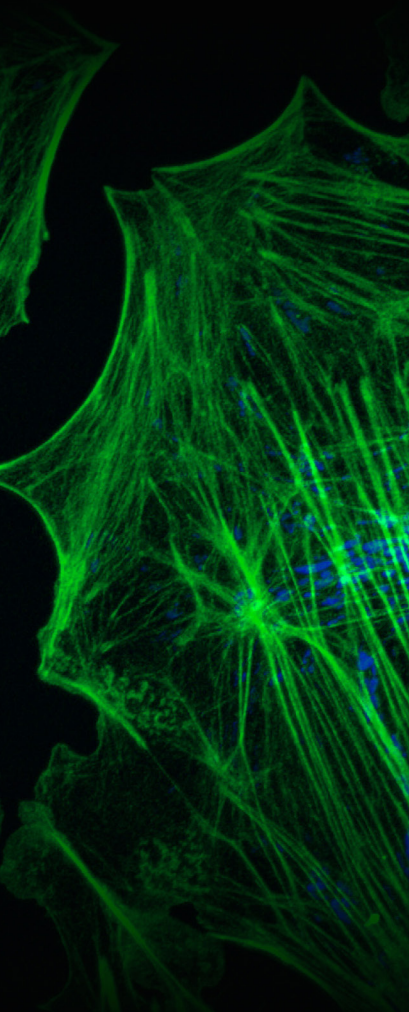
<b>type of sensor</b>	global shutter scientific CMOS (sCMOS) monochrome
<b>resolution (h x v)</b>	5120 x 5120 active pixel
<b>pixel size (h x v)</b>	2.5 $\mu\text{m}$ x 2.5 $\mu\text{m}$
<b>sensor format / diagonal</b>	12.8 mm x 12.8 mm / 18.1 mm
<b>shutter mode</b>	global/snapshot shutter (GS)
<b>MTF</b>	200 lp/mm (theoretical)
<b>fullwell capacity</b>	4500 e <sup>-</sup>
<b>readout noise (typ.)<sup>1</sup></b>	2.3 <sub>med</sub> e <sup>-</sup> / 2.5 <sub>rms</sub> e <sup>-</sup>
<b>dynamic range (typ.)</b>	66 dB
<b>quantum efficiency</b>	65 %
<b>spectral range</b>	320 nm .. 1000 nm
<b>dark current (typ.)</b>	3 e <sup>-</sup> /pixel/s @ 21 °C ambient temperature
<b>DSNU</b>	< 1 e <sup>-</sup> rms
<b>PRNU</b>	< 1.2 %
<b>anti blooming factor<sup>2</sup></b>	> 10 000
<b>parasitic light sensitivity</b>	1/10000

» camera system

<b>maximum frame rate @ full resolution</b>	6 fps
<b>exposure / shutter time</b>	27 $\mu\text{s}$ .. 20 s
<b>dynamic range A/D</b>	12 bit
<b>A/D conversion factor</b>	1.1 e <sup>-</sup> /DN
<b>pixel data rate</b>	187 Mpixel/s
<b>binning horizontal</b>	x1, x2, x4
<b>binning vertical</b>	x1, x2, x4
<b>region of interest (ROI)</b>	horizontal: steps of 8 pixel (min. 24) vertical: steps of 2 pixel (min. 8)
<b>non linearity</b>	< 0.6 %
<b>cooling method</b>	passive cooled
<b>trigger input signals</b>	frame trigger, sequence trigger, programmable input (SMA connectors)
<b>trigger output signals</b>	exposure, busy, programmable output (SMA connectors)
<b>data interface</b>	USB 3.1 Gen 1
<b>time stamp</b>	in image (1 $\mu\text{s}$ resolution)

<sup>1</sup> 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.

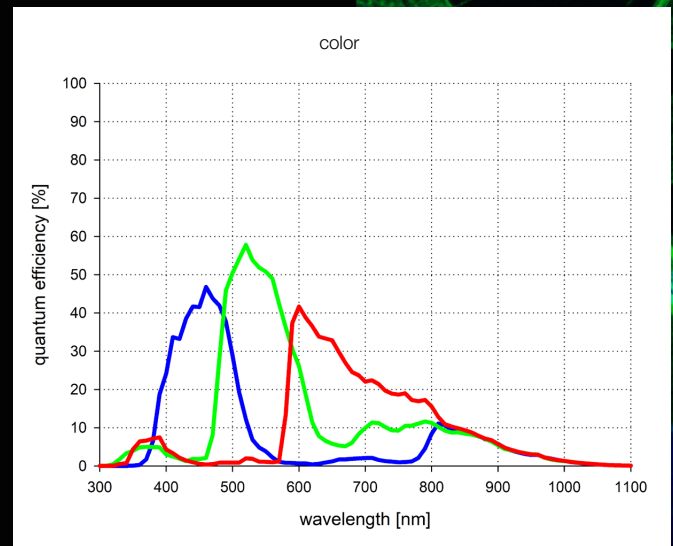
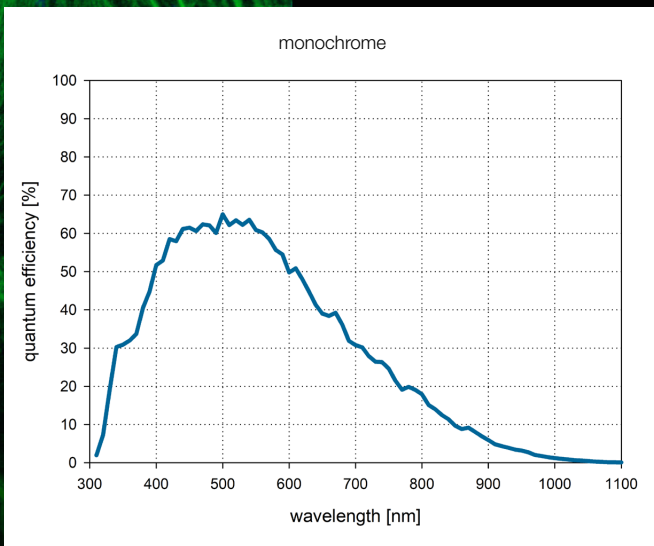
<sup>2</sup> Based on image sensor data sheet.



» general

power delivery	power over USB 3.1 Gen 1
power consumption	typ. 4.5 W (max. 6.0 W)
weight	600 g
operating temperature	+ 10 °C .. + 40 °C
operating humidity range	10 % .. 80 % (non-condensing)
storage temperature range	- 10 °C .. + 60 °C
optical interface	C-mount (optional: F-mount)
CE / FCC certified	yes

» quantum efficiency



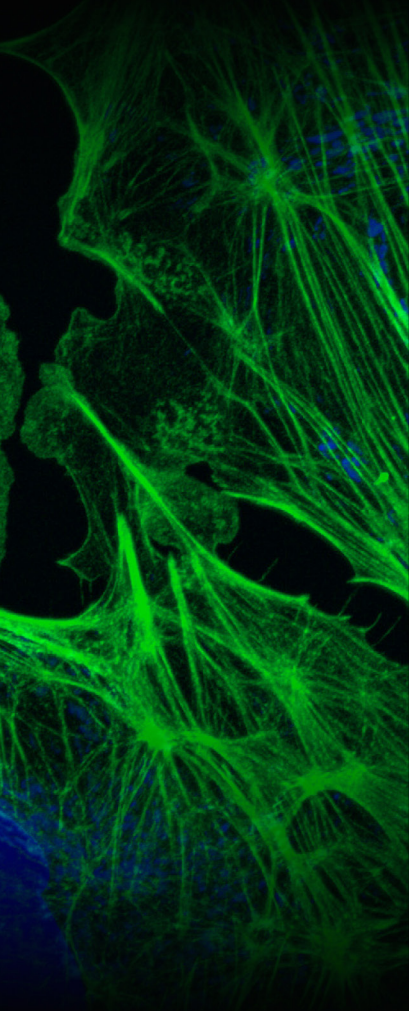
QE curves of image sensor as measured by manufacturer.

» frame rate table

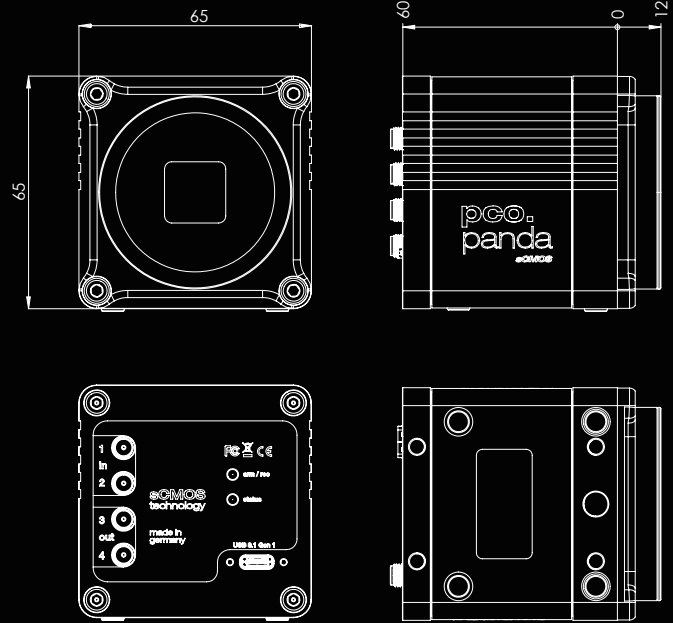
5120 x 5120	6 fps
5120 x 1024	30 fps
5120 x 512	59 fps
5120 x 256	115 fps
5120 x 128	216 fps
1920 x 1080	29 fps
1600 x 1200	26 fps
1280 x 1024	30 fps
640 x 480	63 fps
320 x 240	122 fps

» benefits

- ultra compact design
- sealed electronics for dust & dirt protection
- spider-less mounting with only 6.18 mm to image plane

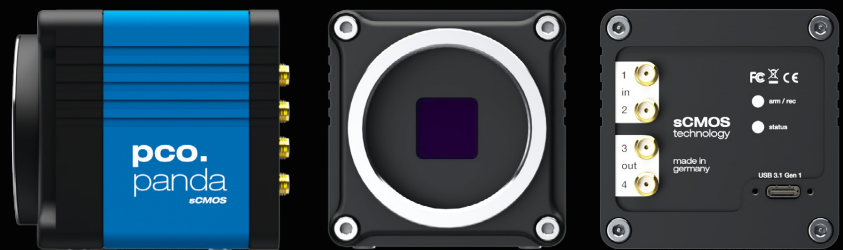


» dimensions



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

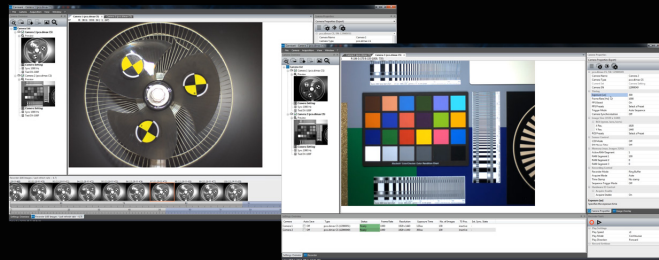
» camera view



» applications

brightfield microscopy | fluorescence microscopy | digital pathology | mesoscopy (low magnification microscopy) | 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](http://www.pco.de).

» third party integrations



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