

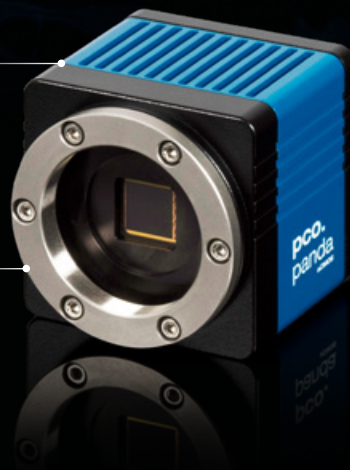
pco.panda 4.2
true **sCMOS** compact

new

bi back
illuminated

up to **95%**
quantum efficiency

6.5 μm pixel size
for a perfect fit in microscopy
and life science optics



65 mm

**ultra
compact
design**

the pioneer in **sCMOS** image sensor technology

pco.

pco.panda 4.2

sCMOS camera system



pco.panda 4.2

technical specifications

image sensor

type of sensor	sCMOS (scientific CMOS)
resolution	2048 x 2048 pixel
pixel size	6.5 μm x 6.5 μm
sensor format / diagonal	13.3 mm x 13.3 mm / 18 mm
shutter mode	rolling shutter (RS)
MTF	76.9 lp/mm (theoretical)
fullwell capacity (typ.)	45 000 e^-
read out noise (typ.) ¹	2.1 med e^- / 2.3 rms e^-
dynamic range (typ.)	87 dB
quantum efficiency	up to 80 %
dark current (typ.)	15 e^- /pixel/s @ 21 °C ambient temp.
DSNU	0.5 rms e^- @ 21 °C ambient temp.
PRNU	0.6 %

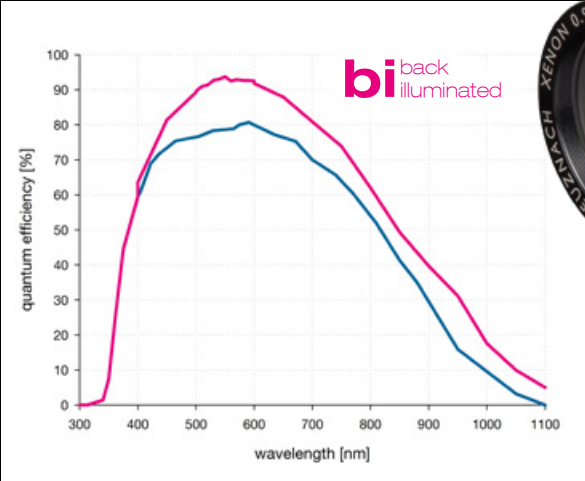
camera

frame rate	40 fps @ full resolution
exposure / shutter time	100 μs .. 5 s
dynamic range A/D	16 bit
A/D conversion factor	0.65 e^- /count
region of interest (ROI)	horizontal: steps of 4 pixels vertical: steps of 1 pixel (min 4 pixel)
non linearity	< 0.6 %
cooling method	passive cooling
trigger input signals	frame trigger, acquire (SMA connectors)
trigger output signals	exposure, busy (SMA connectors)
data interface	USB 3.1 Gen 1
time stamp	in image (1 μs resolution)

¹The 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.

new » pco.panda 4.2 bi

quantum efficiency
pco.panda 4.2 vs pco.panda 4.2 bi



up to 95% QE



bi back illuminated

general

power delivery	via USB Type-C
power consumption	< 4,5 W
weight	420 g
operating temperature	+10 °C .. +40 °C
operating humidity range	10 % .. 90 % (non-condensing)
storage temperature range	-10 °C .. +60 °C
optical interface	C-mount (optional: F-mount)
CE / FCC certified	yes

frame rate table	2048 x 2048	40 fps
	2048 x 1024	80 fps

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