datasheet
pco.panda 26 USB

ultra-compact global shutter sCMOS camera

resolution
26.2 MPixel

pixel size
2.5 µm x 2.5 µm

interface
USB 3.1 Gen 1

high resolution
5120 x 5120 pixels

dust-protected
housing

available in
monochrome and color

ultra-compact
design

single-cable solution
data & power supply via USB 3.1

true charge domain
global shutter

excelitas.com

excelitas®

technical data

image sensor

sensor technology	scientific CMOS (sCMOS)
color type	monochrome color (bayer pattern)
resolution (horizontal x vertical)	5120 px x 5120 px
pixel size (horizontal x vertical)	2.5 µm x 2.5 µm
sensor size (horizontal x vertical)	12.8 mm x 12.8 mm
sensor diagonal	18.1 mm
shutter mode	global shutter[1] (GS)
modulation transfer function (theoretical max.)	200.0 lp/mm
peak quantum efficiency	65 % @ 500 nm (monochrome)
spectral range	320 nm - 1000 nm (monochrome)
dark current (typ.)	2.0 e^- /pixel/s @ +32 °C sensor temperature
fullwell capacity	4500 e^-
readout noise (typ.)[2]	2.5 e^- rms 2.3 e^- med
dynamic range (intra-scene)[3]	2000 : 1 (66 dB)
parasitic light sensitivity	1/10 000

[1] True Charge Domain Global Shutter for low noise, minimal dark current, and exceptionally low parasitic light sensitivity.
[2] The readout noise values are given as median (med) and root mean square (rms) value, due to the different noise models which can be used for evaluation. All values are raw data without any filtering.
[3] The dynamic range value is calculated with the median value of the readout noise and rounded.

frame rate table

vertical resolution reduction

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

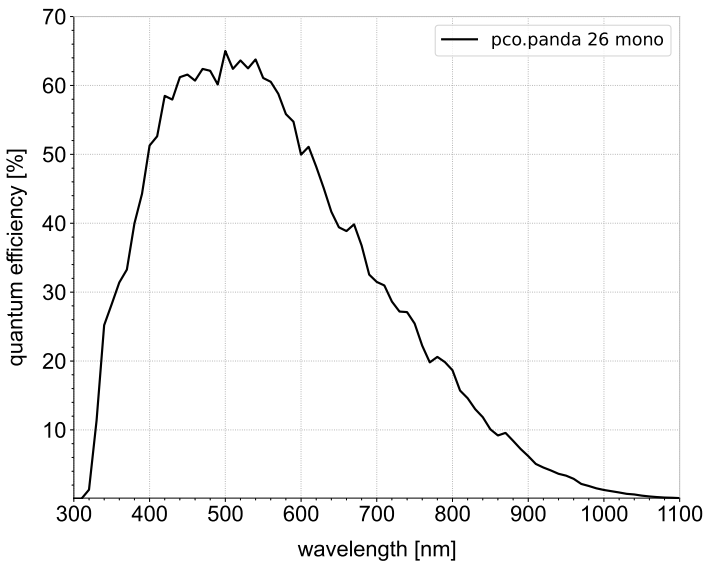
typical resolutions

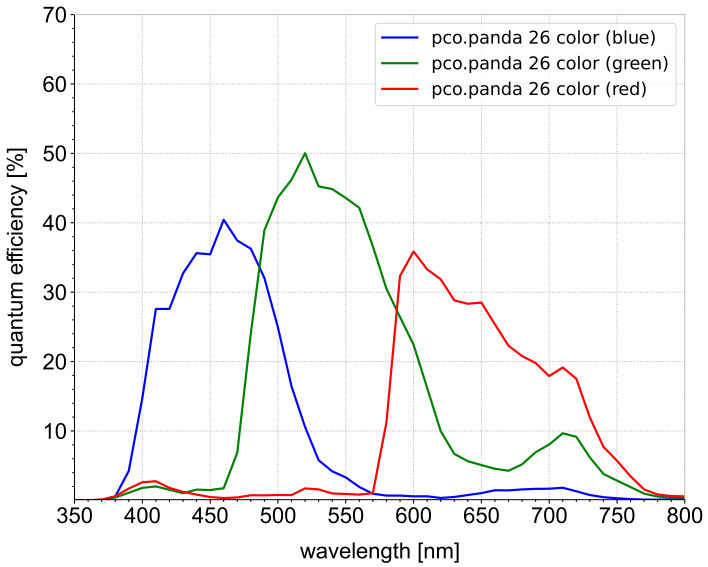
1920 x 1080	29 fps
1600 x 1200	26 fps
1280 x 1024	30 fps
640 x 480	63 fps
320 x 240	122 fps

camera	
max. frame rate @ full resolution	6 fps
exposure time range	32 µs - 20 s
dynamic range A/D	12 bit
conversion factor[1]	1.1 e^-/DN
pixel rate	187 MPixel/s
region of interest (ROI)	horizontal: steps of 8 columns (min. 24) vertical: steps of 2 rows (min. 8)
binning	horizontal: x2, x4 (average, sum) vertical: x2, x4 (average, sum)
non-linearity	< 0.6 %
dark signal non-uniformity (DSNU)	< 1 e^- rms
photo response non-uniformity (PRNU)	< 1.2 %
cooling method	passive cooling
trigger input signals	external exposure start, external exposure control, low latency external start, acquire enable
status output signals	exposure, busy
input / output signal connectors	SMA
time stamp	in image (1 µs resolution)
data interface	USB 3.1 Gen 1

[1] According to EMVA1288, the conversion factor equals the inverse of the system gain and can be operational mode dependent.

quantum efficiency





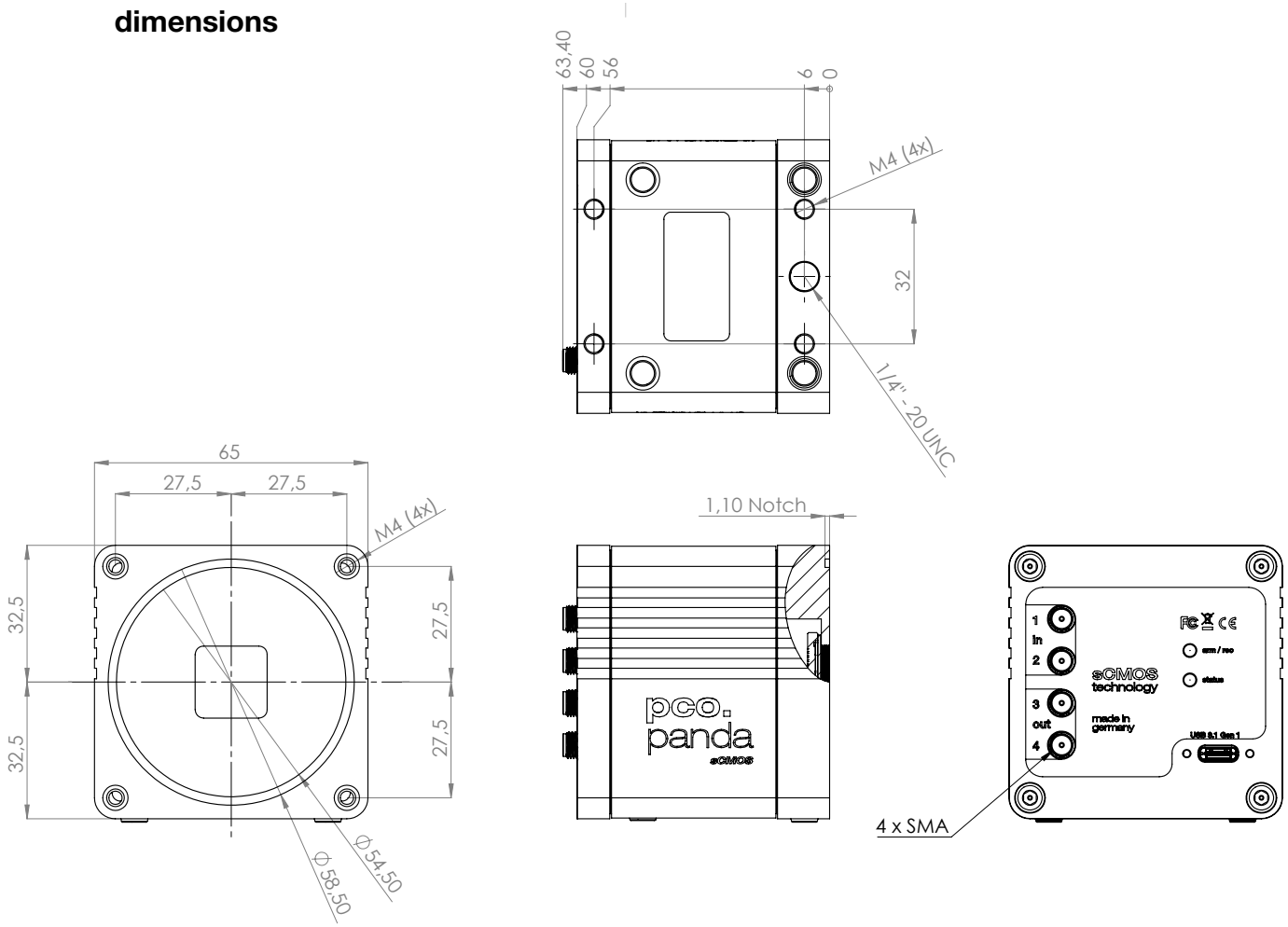
general	
power supply	power over USB 3.1 Gen 1
power consumption	max. 6 W
weight	0.6 kg
dimensions (height x width x length[1])	65 mm x 65 mm x 72 mm
operating temperature range	+10 °C to +40 °C
storage temperature range	-10 °C to +60 °C
humidity range (non-condensing)	10 % to 80 % (recommended < 65 %)
certifications	CE, FCC, UKCA, KC

[1] This value refers to the length including the camera flange.

optical interface	
direct mounting distance (no camera flange)	3.4 mm (±10 %)
lens mounting	C-mount
optional lens mounting	F-mount, TFL-mount

Configure your optical setup with our **MachVis Lens Selector** online tool.

dimensions



outlines of pco.panda 26 USB without camera flange (all dimensions given in mm)

software

Your first choice is pco.camware:

Our main camera control software enables control of most camera settings and facilitates image acquisition and storage.

You can customize it exactly to your needs using different layouts, styles and features.

You prefer to use a different software:

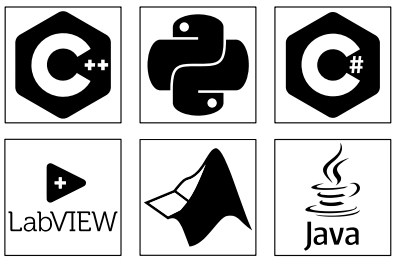
Our cameras integrate with a range of third-party software applications.

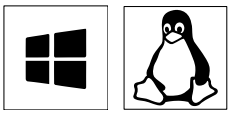
In microscopy we offer dedicated support for µManager, while ensuring compatibility with other software maintained by their providers.

You want to create your own application:

We feature a wide range of software development kits (SDK) for various programming languages, such as C++, Python, C#, LabVIEW, Matlab, and Java.

If you are looking for more general SDKs, we present pco.sdk and pco.recorder, our low-level SDKs with C interface.





Our software is available for Windows and Linux platforms.

Visit our **website** for detailed information, installation guidance, and Github projects.

areas of application

3D metrology | biochip reading | brightfield microscopy | digital pathology | fluorescence microscopy | high-content screening | high-speed brightfield ratio imaging | high-throughput screening | industrial quality inspection | mesoscopy (low magnification microscopy) | spinning disk confocal microscopy

ordering information		
pco.panda 26 USB	85108075011	camera system, 5120 x 5120 pixel, monochrome, global shutter, USB 3.1 interface
pco.panda 26 C USB	85108075012	camera system, 5120 x 5120 pixel, color, global shutter, USB 3.1 interface

pco.®

address:	Excelitas PCO GmbH Donaupark 11 93309 Kelheim, Germany
phone:	(+49) 9441-2005-0 (+1) 866-662-6653 (+86) 0512-6763-4643
mail:	pco@excelitas.com
web:	www.excelitas.com/pco

excelitas®

excelitas.com