

datasheet

pco.edge 26 USB

pco.edge 26 NIR USB

global shutter sCMOS camera

NIR near
infrared*

resolution
26.2 MPixel

pixel size
2.5 μm x 2.5 μm

interface
USB 3.1 Gen 1



deep cooled
down to $-20\text{ }^{\circ}\text{C}$

compact
design

near infrared variant
available*

high resolution
5120 x 5120 pixels

true charge domain
global shutter

low dark current
for exposure times up to 60 s

technical data

image sensor

sensor technology	scientific CMOS (sCMOS)
color type	monochrome
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 68 % @ 560 nm
spectral range	320 nm - 1000 nm
dark current (typ.)	0.09 e ⁻ /pixel/s @ -10 °C sensor temperature
NIR variant:	tbd
fullwell capacity	4500 e ⁻
NIR variant:	tbd
readout noise (typ.)²	2.5 e ⁻ rms 2.3 e ⁻ med
NIR variant:	tbd tbd
dynamic range (intra-scene)³	2000 : 1 (66 dB)
NIR variant:	tbd
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) values, 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 μ s - 60 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)	< 0.9 %
cooling temperature image sensor	adjustable: -20 °C to +20 °C calibration setpoint: -10 °C
cooling method	forced air & liquid 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 μ s 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 and power connector (24 VDC \pm 10 %)
power consumption	max. 6 W over USB 3.1 Gen 1 and max. 22 W over power connector
weight	1.0 kg
dimensions (height x width x length¹)	85 mm x 80 mm x 109 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

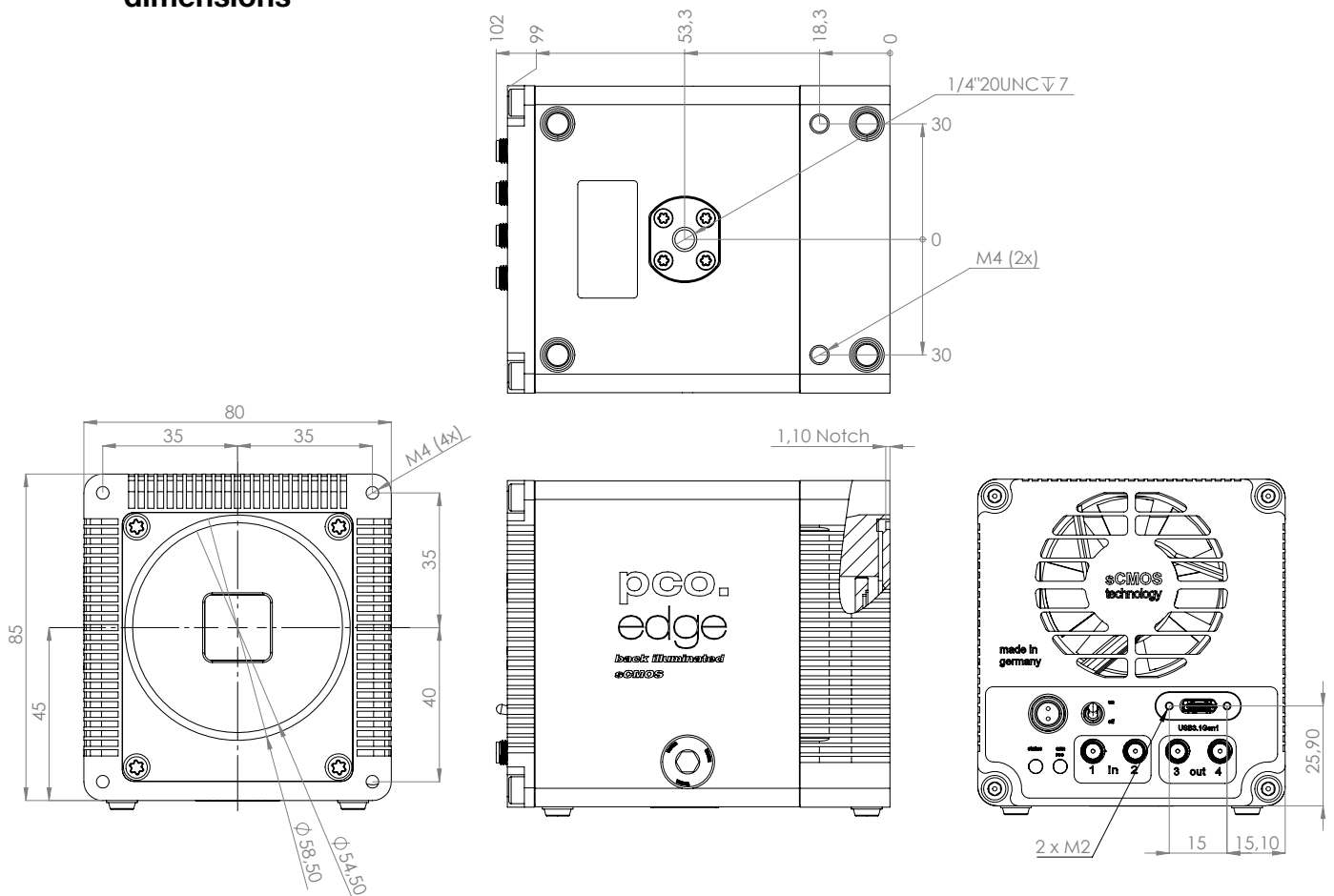
¹ This value refers to the length including the camera flange.

optical interface

direct mounting distance (no camera flange)	6.2 mm (\pm 10 %)
lens mounting	C-mount, F-mount
optional lens mounting	TFL-mount
optional lens remote control	EF-mount, EF-S-mount (Canon)

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

dimensions



outlines of pco.edge 26 (NIR) 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:

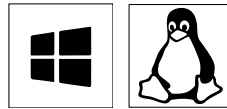
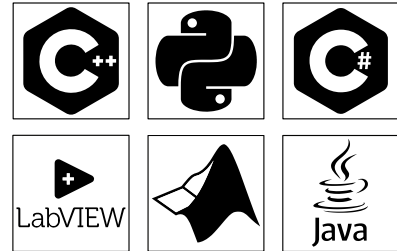
Our cameras integrate with a range of third-party software applications.

In microscopy we offer dedicated support for μ Manager, 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 | lightsheet fluorescence microscopy (LSFM) | structured illumination microscopy (SIM)

ordering information

pco.edge 26 USB	85108075004	camera system, 5120 x 5120 pixel, monochrome, global shutter, USB 3.1 interface, air & liquid cooling
pco.edge 26 NIR USB	85108075025	camera system, 5120 x 5120 pixel, monochrome, enhanced NIR-sensitivity, global shutter, USB 3.1 interface, air & liquid cooling

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