data sheet
pco.panda 26 USB

ultra compact global shutter **sCMOS** camera

resolution
26.0 MPixel

pixel size
2.5 µm x 2.5 µm

interface
USB 3.1 Gen1

available in
mono and color

dust-protected
housing

high resolution
5120 x 5120 pixel

ultra compact
design

single cable solution
data & power supply via USB 3.1

true charge domain
global shutter

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technical data

image sensor

sensor technology	scientific CMOS (sCMOS)
color type	monochrome
resolution (horizontal x vertical)	5120 pixel x 5120 pixel
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 type	global / snapshot shutter (GS)
modulation transfer function (theoretical max.)	200.0 lp/mm
fullwell capacity	4.500 e⁻
readout noise (typ.)[1]	2.3 med e⁻ / 2.5 rms e⁻
dynamic range (typ.)	66.0 dB
peak quantum efficiency	65 % @ 500 nm
spectral range	320 nm - 1000 nm
dark current	3.0 e⁻ /pixel/s @ +21 °C sensor temperature

[1] 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.

frame rate table

vertical resolution reduction	frame rate
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	27 μs - 20 s
dynamic range A/D	12 bit
conversion factor	1.1 e⁻/DN
pixel rate	187 MPixel/s
region of interest (ROI)	horizontal: steps of 8 pixel (min. 24) vertical: steps of 2 pixel (min. 8)
binning	horizontal: x2, x4 vertical: x2, x4
non-linearity	< 0.6 %
dark signal non-uniformity (DSNU)	< 1 e⁻ rms
photo response non-uniformity (PRNU)	< 1.2 %
cooling method	passive cooled
trigger input signals	frame trigger, sequence trigger, programmable input
trigger output signals	exposure, busy, programmable output
input / output signal interface	SMA connectors
anti blooming factor[2]	> 10,000
parasitic light sensitivity	1 / 10,000
time stamp	in image (1 μs resolution)
data interface	USB 3.1 Gen1

[2] Based on image sensor data sheet.

quantum efficiency
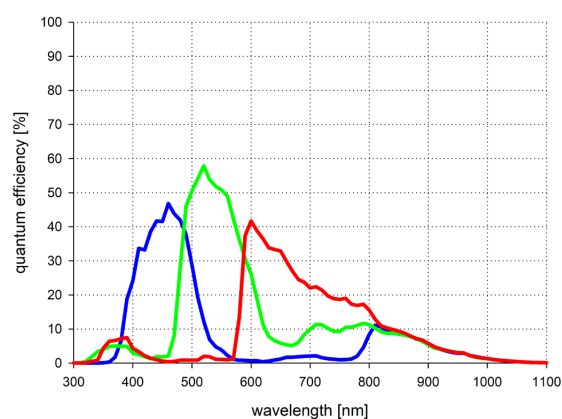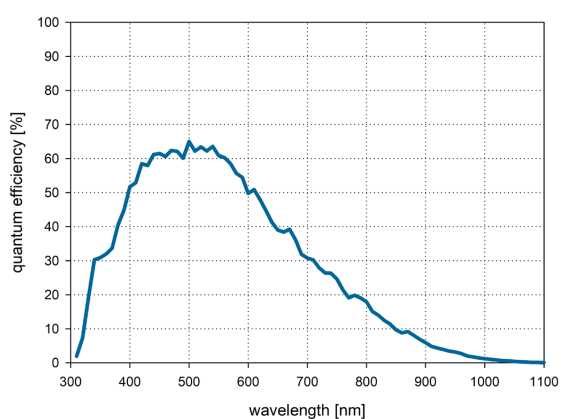
general

power supply	power over USB 3.1 Gen1
power consumption	typ. 4.5 W (max. 6.0 W)
weight	600 g
dimensions (height x width x length)	65 mm x 65 mm x 60 mm
operating temperature range	+10 °C to +40 °C
operating humidity range (non-condensing)	10 % to 80 % (non-condensing)
storage temperature range	-10 °C to +60 °C
CE / FCC certified	yes

optical interface

direct mounting	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
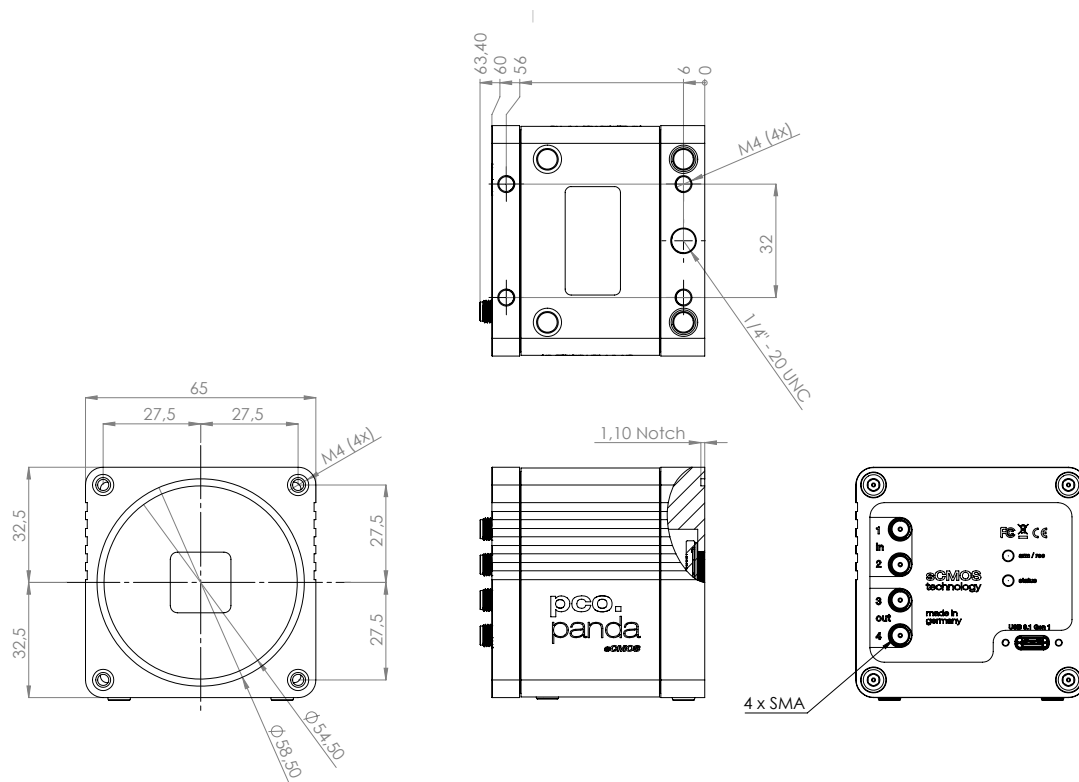
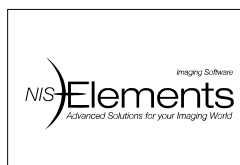Outlines of pco.panda 26 USB (all dimensions given in mm).

software

Our main camera control software pco.camware is the first choice to get started with your camera. It enables full control of all camera settings and makes image acquisition and storage very easy. Using different layouts, stiles and features you can customize it exactly to your needs.

You want to create your own application for the camera:
We offer a wide range of Software Development Kits (SDK) for different programming languages, both for windows and linux. Our pco.sdk, pco.recorder and high-level SDK are designed for C/C++ apps. With pco.python, pco.matlab, pco.labview and pco.java you can control the camera in your C#, python, matlab, labview and java applications, respectively.

You are using a different software:
PCO cameras are also integrated in a variety of software applications. Check our homepage to find a list of all applications that support PCO cameras.
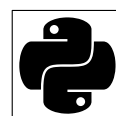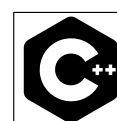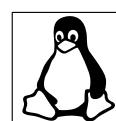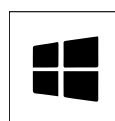
Your use case is in the field of microscopy:
PCO cameras are also integrated in µManager.

areas of application

bright-field 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

ordering information

pco.panda 26 USB	85108075011	camera system, monochrome, 5120 x 5120 pixel, passive cooled, USB 3.1 Gen1
pco.panda 26 C USB	85108075012	camera system, color, 5120 x 5120 pixel, passive cooled, USB 3.1 Gen1

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