

preliminary datasheet

pco.pixelfly 26 CLHS

industrial sCMOS camera

resolution
26.2 MPixel

pixel size
2.5 μm x 2.5 μm

interface
CLHS FOL



fast true charge
domain global shutter

fiber-optic data
interface

high resolution
5120 x 5120 pixels

compact housing

low readout noise
2.3 e^- (med)

monochrome and
color versions

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.)	3.2 e ⁻ /pixel/s @ +35 °C sensor temperature
fullwell capacity	3400 e ⁻
readout noise (typ.)²	2.6 e ⁻ rms 2.3 e ⁻ med
dynamic range (intra-scene)³	1100 : 1 (61 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) 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	29 fps
5120 x 1024	145 fps
5120 x 512	286 fps
5120 x 256	554 fps
5120 x 128	1041 fps
5120 x 8	5847 fps

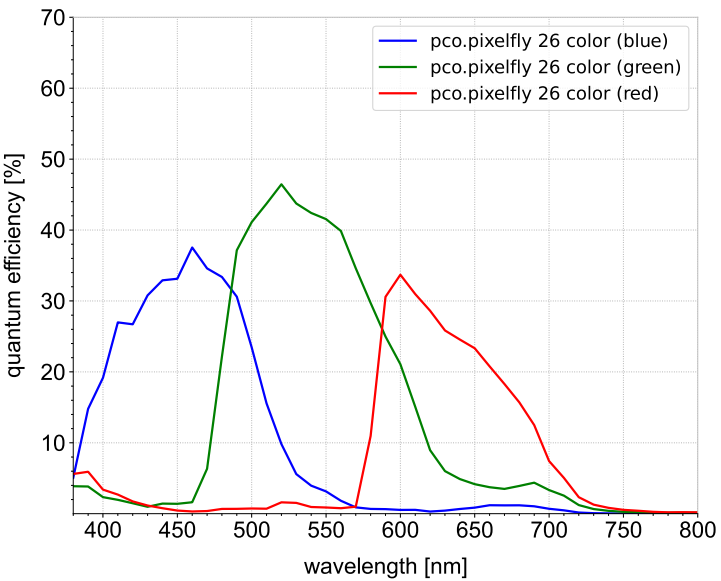
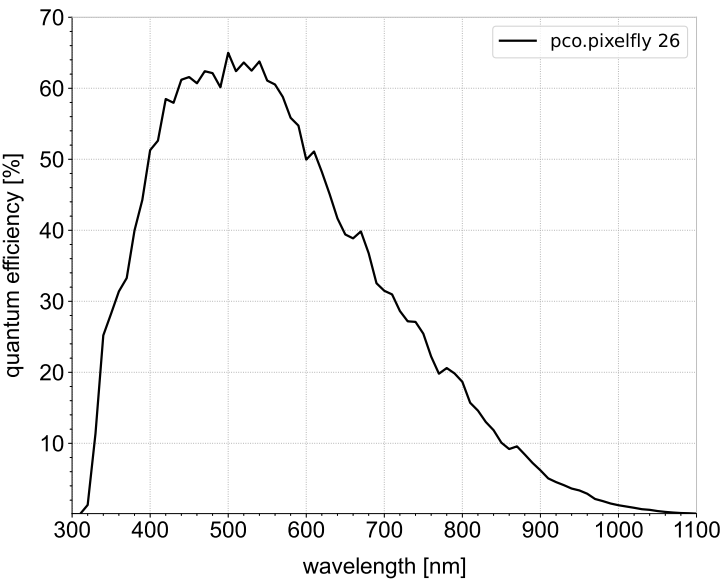
typical resolutions

1920 x 1080	138 fps
1600 x 1200	124 fps
1280 x 1024	145 fps
640 x 480	305 fps
320 x 240	589 fps

camera	
max. frame rate @ full resolution	29 fps
exposure time range	7.8 µs - 30 s
dynamic range A/D	12 bit
conversion factor ¹	0.9 e-/DN
pixel rate	760 MPixel/s
region of interest (ROI)	horizontal: steps of 32 columns vertical: steps of 4 rows (min. 8)
binning	horizontal: x2, x4 (average, sum) vertical: x2, x4 (average, sum)
non-linearity	< 0.16 %
dark signal non-uniformity (DSNU)	< 0.9 e- rms
photo response non-uniformity (PRNU)	< 0.7 %
cooling method	forced air
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	Camera Link HS FOL

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

quantum efficiency



general

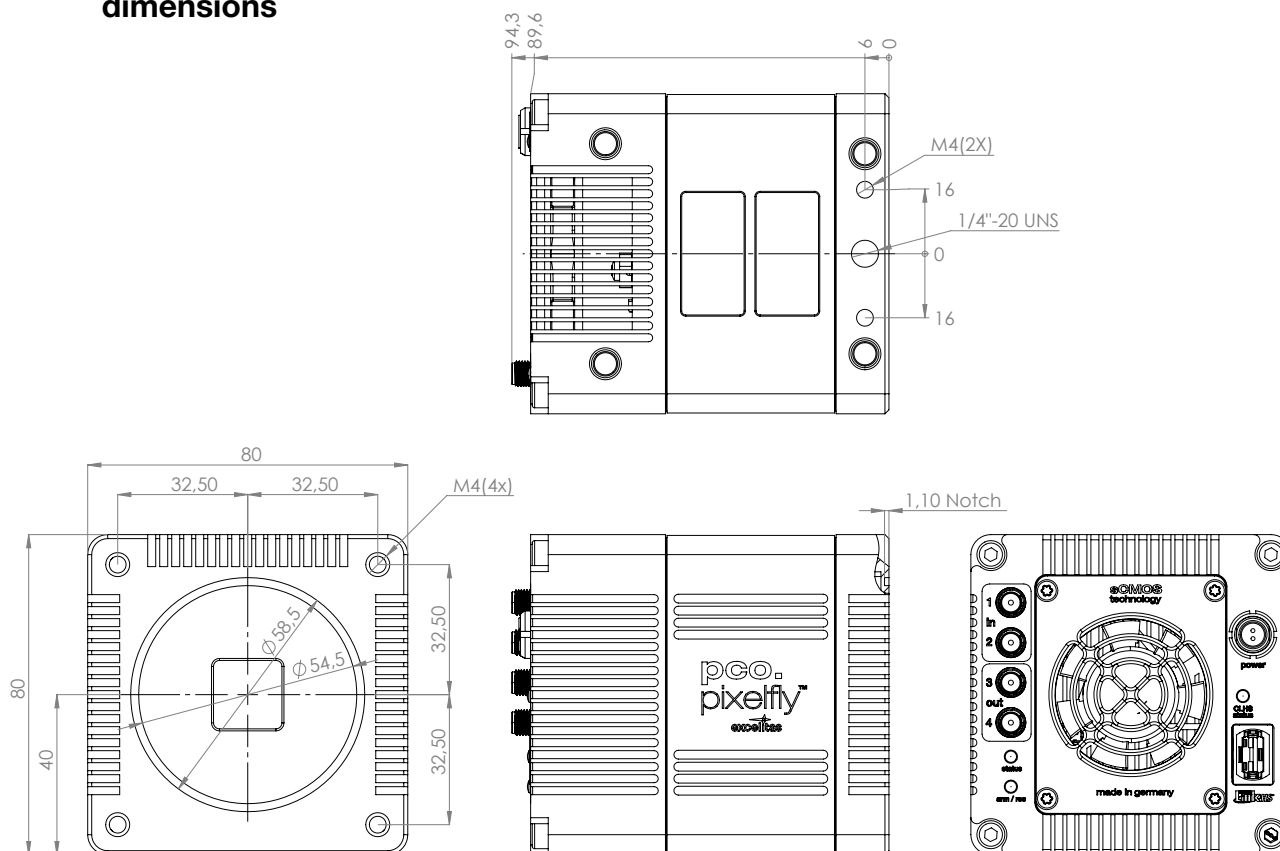
power supply	24 VDC ($\pm 10\%$)
power consumption	tbd
weight	0.9 kg
dimensions (height x width x length¹)	80 mm x 80 mm x 100 mm
operating temperature range	+10 °C to +40 °C
storage temperature range	-10 °C to +60 °C
humidity range (non-condensing)	10 % to 80 % (recommended < 65 %)
certifications	CE, FCC, UKCA

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

optical interface

direct mounting distance (no camera flange)	3.4 mm ($\pm 10\%$)
lens mounting	C-mount, F-mount
optional lens mounting	TFL-mount

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

dimensions

outlines of pco.pixelfly 26 CLHS 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:

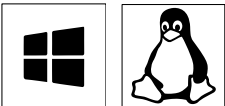
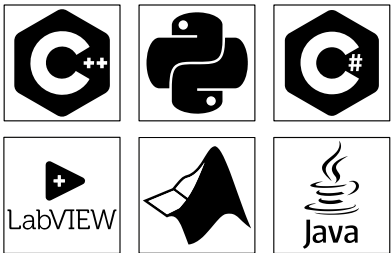
Our cameras integrate with a range of third-party software applications.

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

biochip and microarray reading | brightfield and phase contrast microscopy | digital pathology and whole-slide imaging | flow cytometry and cell imaging | high-speed brightfield and motion imaging | hyperspectral and multispectral imaging in the visible range | industrial quality inspection and defect detection | material and particle analysis in material sciences | optical interferometry and holographic measurement | semiconductor wafer and PCB inspection | structured light or fringe projection 3D measurement | surface metrology and laser triangulation | wafer and semiconductor inspection

ordering information

pco.pixelfly 26 CLHS	85108076026	camera system, 5120 x 5120 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 26 C CLHS	85108076027	camera system, 5120 x 5120 pixel, color, global shutter, CLHS interface, air cooling

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

