datasheet

pco.edge 26 DS CLHS

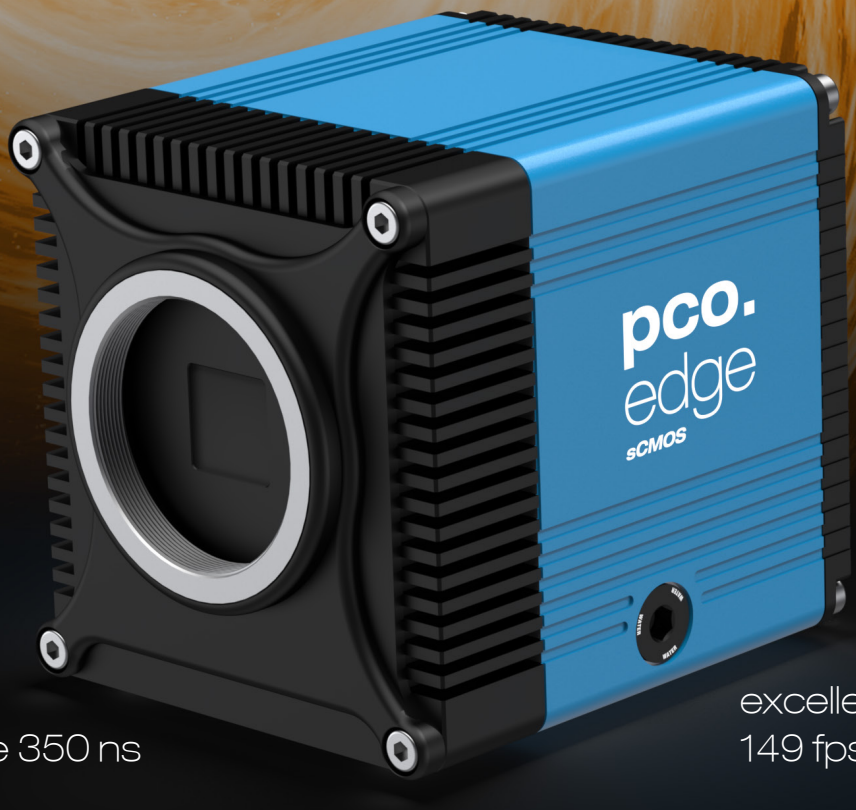
high-resolution double shutter camera

DS double shutter

resolution
26.2 MPixel

pixel size
2.5 µm x 2.5 µm

interface
CLHS FOL



double shutter
interframing time 350 ns

excellent frame rate
149 fps @ 26.2 MPixel

high resolution
5120 x 5120 pixels

low readout noise
3.4 e^- (med)

small pixel size
ideal for low magnifications

temperature-stabilized
image sensor

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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) double shutter (DS)
modulation transfer function (theoretical max.)	200.0 lp/mm
peak quantum efficiency	65 % @ 500 nm
spectral range	320 nm - 1000 nm
dark current (typ.)	0.4 e^- /pixel/s @ +15 °C sensor temperature
fullwell capacity	4000 e^-
readout noise (typ.)[2]	3.4 e^- rms 3.4 e^- med
dynamic range (intra-scene)	1200 : 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.

frame rate table

vertical resolution reduction

	GS	DS
5120 x 5120	149 fps	74 fps
5120 x 1024	743 fps	372 fps
5120 x 512	1475 fps	740 fps
5120 x 256	2907 fps	1464 fps
5120 x 128	5644 fps	2863 fps

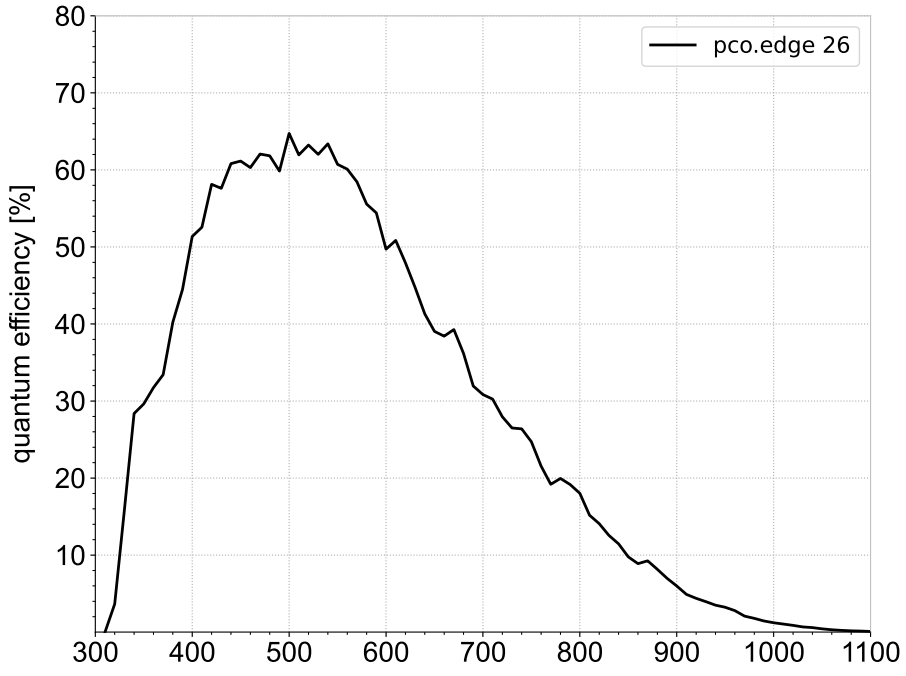
typical resolutions

	GS	DS
1920 x 1080	705 fps	353 fps
1600 x 1200	635 fps	318 fps
1280 x 1024	743 fps	372 fps
640 x 480	1572 fps	789 fps
320 x 240	3095 fps	1559 fps

camera	
max. frame rate @ full resolution	149 fps (GS) 74 fps (DS)
double shutter interframing time	350 ns
exposure time range	6 µs - 350 ms
dynamic range A/D	10 bit
conversion factor[1]	4.2 e^-/DN
pixel rate	3.93 GPixel/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	< 0.34 %
dark signal non-uniformity (DSNU)	< 0.9 e^- rms
photo response non-uniformity (PRNU)	< 0.7 %
cooling temperature image sensor	adjustable: 0 °C to +25 °C calibration setpoint: +15 °C
cooling method	forced air & liquid cooling
trigger input signals	external exposure start, external exposure control, 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



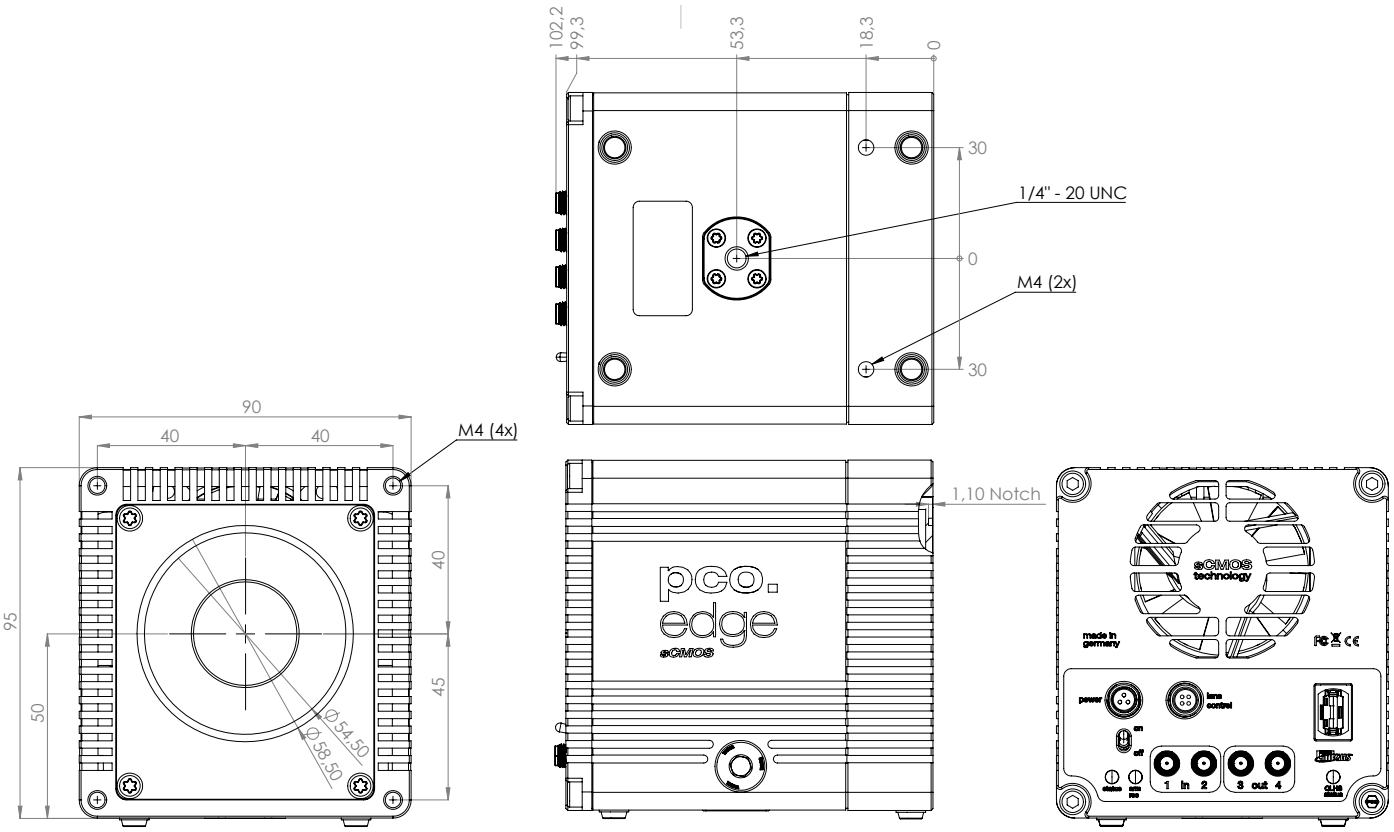
general	
power supply	24 VDC (±10 %)
power consumption	max. 40 W
weight	1.35 kg
dimensions (height x width x length[1])	95 mm x 90 mm x 109 mm
operating temperature range	+10 °C to +40 °C
storage temperature range	-10 °C to +60 °C
humidity range (non-condensing)	10 % to 80 % (recommended: < 65 %)
certifications	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 (±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 DS 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 want to create your own application:

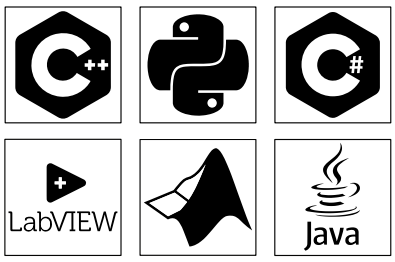
We feature a wide range of software development kits (SDK) for various programming languages, such as C++, Python, C#, LabVIEW, Matlab, and Java.

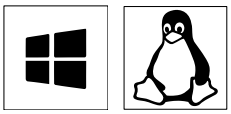
If you are looking for more general SDKs, we present pco.sdk and pco.recorder, our low-level SDKs with C interface.

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.





Our software is available for Windows and Linux platforms.

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

optional accessories

pco.scheimpflug camera adapter

The pco.scheimpflug camera adapter allows you to easily adjust the plane of focus in your imaging system. By tilting the lens relative to the image sensor, this setup alters the angle of the focal plane, enabling selective focus and improved sharpness across three-dimensional objects in a single image.

areas of application

ballistics | combustion analysis | flow visualization | fluid dynamics | fuel injection research | particle image velocimetry (PIV) | particle tracking velocimetry (PTV) | spray analysis | wind tunnel studies

ordering information

pco.edge 26 DS CLHS	85108076005	camera system, 5120 x 5120 pixel, monochrome, global shutter, double shutter feature with 350ns interframing time, CLHS interface, air & liquid cooling

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