

preliminary datasheet

pco.pixelfly™ 105 bi CLHS

pco.pixelfly™ 68 bi CLHS

pco.pixelfly™ 50 bi CLHS

bi back
illuminated

resolution
up to 105 MPixel

pixel size
2.74 μm x 2.74 μm

interface
CLHS FOL



Sony Pregius S
global shutter technology

fiber-optic data
interface

high resolution
up to 10240 x 10240 pixels

monochrome and
color variants

compact housing

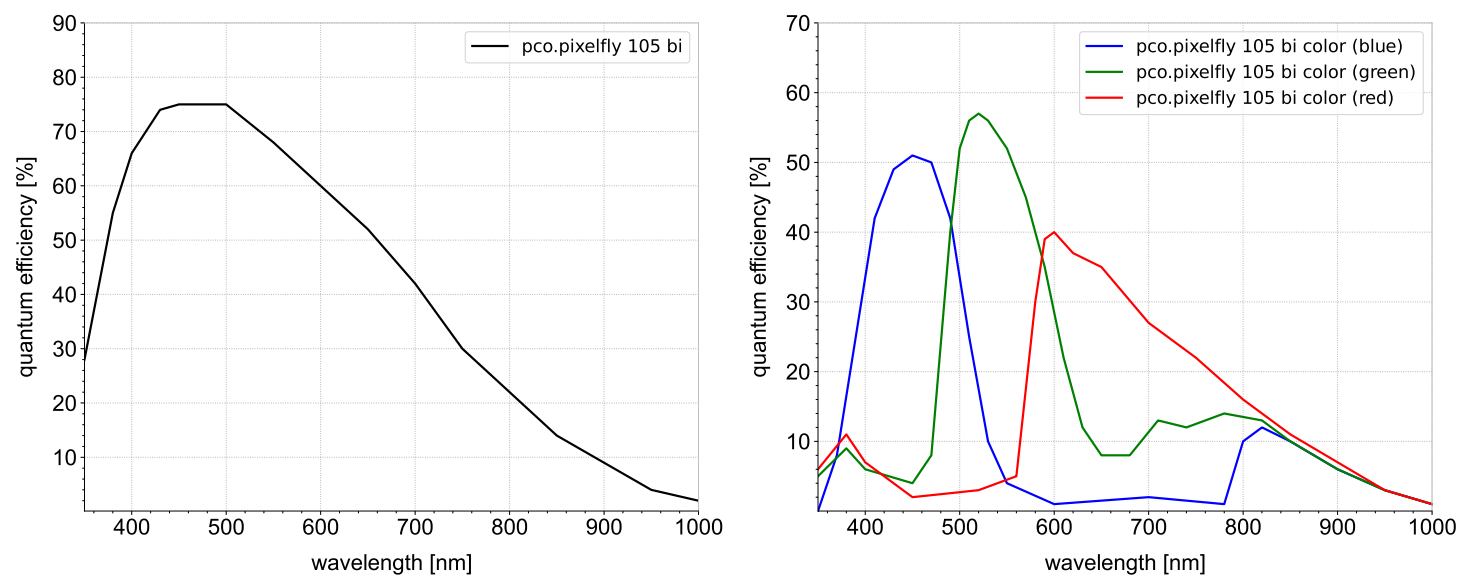
technical data

image sensor			
	pco.pixelfly 105 bi	pco.pixelfly 68 bi	pco.pixelfly 50 bi
sensor technology	Sony Pregius S		
color type	monochrome color (bayer pattern)		
resolution (horizontal × vertical)	10240 px × 10240 px	8256 px × 8256 px	8192 px × 6144 px
pixel size (horizontal × vertical)	2.74 μm × 2.74 μm		
sensor size (horizontal × vertical)	28.0 mm × 28.0 mm	22.6 mm × 22.6 mm	22.4 mm × 16.8 mm
sensor diagonal	39.6 mm	32.0 mm	28.0 mm
shutter mode	global shutter (GS)		
modulation transfer function (theoretical max.)	182.5 lp/mm		
peak quantum efficiency	75 % @ 500 nm (monochrome)		
spectral range	320 nm - 1000 nm (monochrome)		
dark current (typ.)	3.2 e-/pixel/s @ +35 °C sensor temperature		
fullwell capacity	9200 e-		
readout noise (typ.)	2.0 e-		
dynamic range (intra-scene)	4600 :1 (73 dB)		



camera			
	pco.pixelfly 105 bi	pco.pixelfly 68 bi	pco.pixelfly 50 bi
max. frame rate @ full resolution			
100G variant			
@ 8 bit	110 fps	136 fps	221 fps
@ 10 bit	90 fps	124 fps	183 fps
@ 12 bit	72 fps	89 fps	135 fps
max. frame rate @ full resolution			
40G variant			
@ 8 bit	92 fps	92 fps	93 fps
@ 10 bit	75 fps	75 fps	75 fps
@ 12 bit	64 fps	60 fps	62 fps
exposure time range	1.7 μ s - 1 s		
dynamic range A/D	8 bit 10 bit 12 bit		
region of interest (ROI)	horizontal: steps of 32 columns vertical: steps of 4 rows (min. 8)		
binning	horizontal: x2 (hardware), x4 (average, sum) vertical: x2 (hardware), x4 (average, sum)		
cooling method	forced air		
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 μ s resolution)		
data interface	Camera Link HS FOL		

quantum efficiency



The QE curves shown apply to all variants.

general

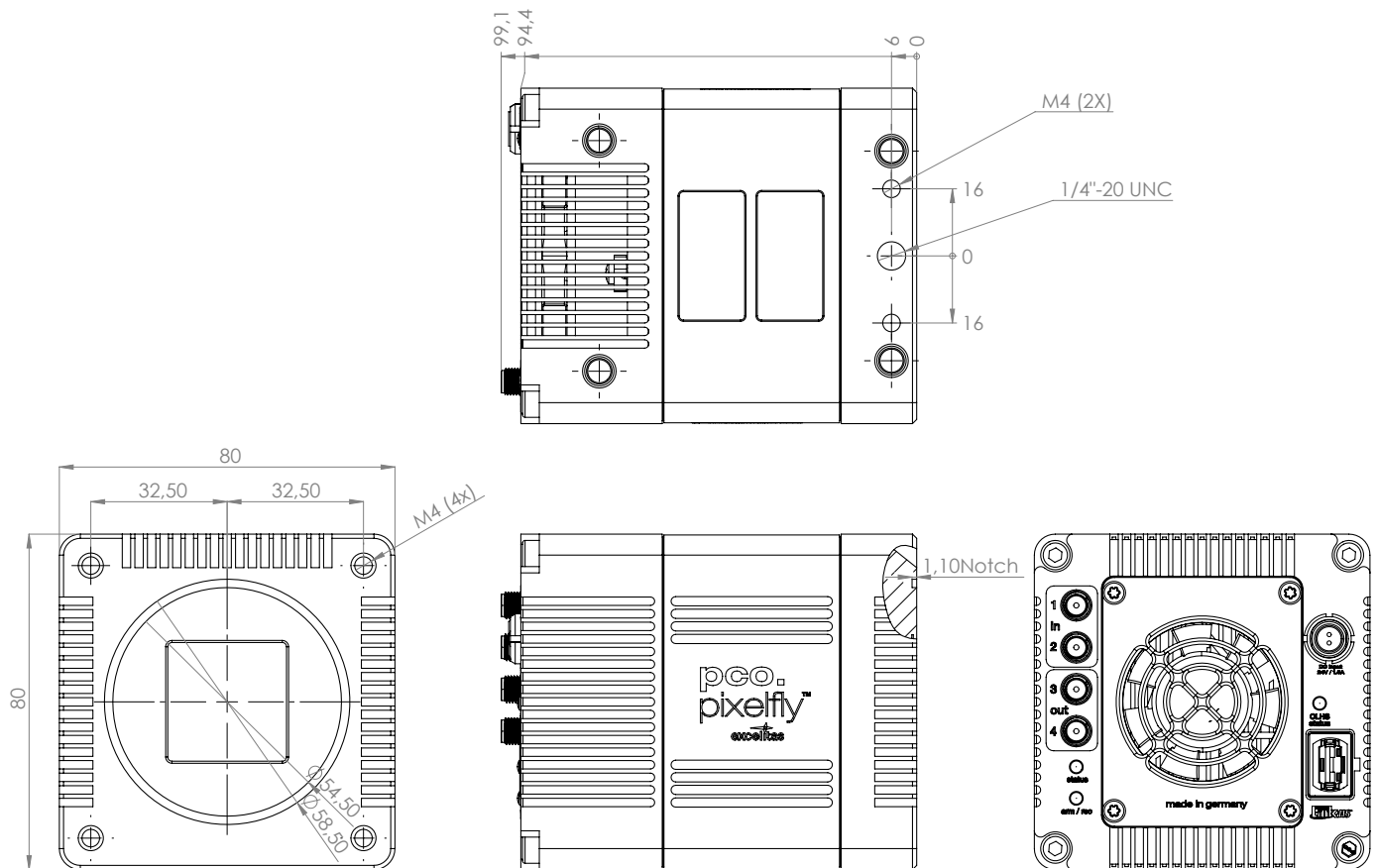
power supply	24 VDC ($\pm 10\%$)
power consumption	tbd
weight	1.0 kg
dimensions (height x width x length¹)	80 mm x 80 mm x 105 mm
operating temperature range	+10 °C to +40 °C
storage temperature range	-10 °C to +60 °C
humidity range (non-condensing)	10 % to 80 % (recommended < 65 %)
certifications	CE, FCC, UKCA

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

optical interface

lens mounting	C-mount, F-mount
optional lens mounting	TFL-mount

Configure your optical setup with our **MachVis™ System Configurator** online tool.

dimensions

outlines of pco.pixelfly 105 bi CLHS family 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:

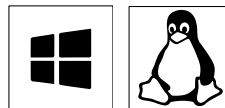
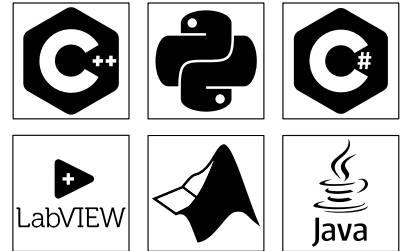
Our cameras integrate with a range of third-party software applications.

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

automated optical inspection (AOI) | digital pathology | electronics manufacturing | flat panel display inspection | large-area machine vision | life science instrumentation | precision measurement systems | scientific imaging | semiconductor inspection | wafer inspection and metrology

ordering information		
pco.pixelfly 105 bi M CLHS 40G	85108076052	camera system, 10240 × 10240 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 105 bi M CLHS 100G	85108076053	camera system, 10240 × 10240 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 105 bi C CLHS 40G	85108076050	camera system, 10240 × 10240 pixel, color, global shutter, CLHS interface, air cooling
pco.pixelfly 105 bi C CLHS 100G	85108076051	camera system, 10240 × 10240 pixel, color, global shutter, CLHS interface, air cooling
pco.pixelfly 68 bi M CLHS 40G	85108076056	camera system, 8256 × 8256 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 68 bi M CLHS 100G	85108076057	camera system, 8256 × 8256 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 68 bi C CLHS 40G	85108076054	camera system, 8256 × 8256 pixel, color, global shutter, CLHS interface, air cooling
pco.pixelfly 68 bi C CLHS 100G	85108076055	camera system, 8256 × 8256 pixel, color, global shutter, CLHS interface, air cooling
pco.pixelfly 50 bi M CLHS 40G	85108076060	camera system, 8192 × 6144 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 50 bi M CLHS 100G	85108076061	camera system, 8192 × 6144 pixel, monochrome, global shutter, CLHS interface, air cooling
pco.pixelfly 50 bi C CLHS 40G	85108076058	camera system, 8192 × 6144 pixel, color, global shutter, CLHS interface, air cooling
pco.pixelfly 50 bi C CLHS 100G	85108076059	camera system, 8192 × 6144 pixel, color, global shutter, CLHS interface, air cooling

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