

pco.panda series

product overview

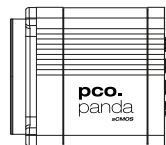
ultra compact
sCMOS
cameras



pco.panda series

The pco.panda series represents the compact segment within PCO's scientific CMOS (sCMOS) camera portfolio. The camera housing features optimized passive thermal management, ensuring high performance of sCMOS image sensors within the smallest form factor. The pco.panda cameras offer an ideal and cost-effective solution for a wide range of scientific and industrial applications. Available with versatile features such as low light mode, line scanning mode, and double shutter technology, they deliver enhanced performance tailored to specialized imaging needs.

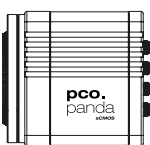


technical table	pco.panda 26	pco.panda 26 DS
interface	USB 3.1 Gen 1	USB 3.1 Gen 1
sensor technology	sCMOS	sCMOS
color type	monochrome or color	monochrome
resolution [pixels]	5120 x 5120	5120 x 5120
sensor diagonal [mm]	18.1	18.1
pixel size [μm]	2.5 x 2.5	2.5 x 2.5
max. frame rate [fps] @ full resolution	6	6 (single shutter mode) 1 (double shutter mode)
max. pixel rate [MPixel/s]	187	187
peak QE	65 % @ 500 nm ¹	65 % @ 500 nm
typ. readout noise ² [e ⁻]	2.3	2.3
max. dynamic range	2000 : 1	2000 : 1
shutter mode ³	GS	GS
cooling method	passive	passive
features	-	double shutter with 1 μs interframing time
dimensions H x W x L [mm]	65 x 65 x 72	65 x 65 x 72
camera housing		

Top feature – Double shutter technology

The outstanding global shutter capabilities of the pco.panda 26 sCMOS sensor make it an ideal choice for effective double imaging – a critical requirement for performing all types of Particle Image Velocimetry (PIV) measurements in flow analysis. In PIV, light-scattering particles in the flow are illuminated twice within a short, defined time interval. This interval is limited by the camera's double shutter interframing time, which determines the minimum time between consecutive exposures. The camera captures the scattered light in two high-resolution frames, and thanks to its short interframing time, high flow speeds can be measured accurately.



technical table	pco.panda 4.2	pco.panda 4.2 bi	pco.panda 4.2 bi UV
interface	USB 3.1 Gen 1	USB 3.1 Gen 1	
sensor technology	sCMOS	back illuminated sCMOS	
color type	monochrome or color	monochrome	
resolution [pixels]	2048 x 2048	2048 x 2048	
sensor diagonal [mm]	18.8	18.8	
pixel size [µm]	6.5 x 6.5	6.5 x 6.5	
max. frame rate [fps] @ full resolution	40	40	
max. pixel rate [MPixel/s]	176	184	
peak QE	80 % @ 600 nm ¹	92 % @ 550 nm	90 % @ 550 nm 46 % @ 240 nm
typ. readout noise ² [e ⁻]	2.1	1.8	
max. dynamic range	21500 : 1	26500 : 1	
shutter mode ³	RS	RS	
cooling method	passive	passive	
features	line scanning mode	line scanning mode, low light mode	
dimensions H x W x L [mm]	65 x 65 x 66	65 x 65 x 66	
camera housing			

¹ Monochrome version.

² The readout noise values are given as median (med). All values are raw data without any filtering.

³ RS = Rolling Shutter | GS = Global Shutter

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