

# pco.edge 4.2 bi XU

optimized for EUV & soft X-ray applications

**high spatial resolution**  
2048 x 2048 pixel

**pixel size**  
6.5  $\mu\text{m}$  x 6.5  $\mu\text{m}$

**low readout noise**  
1.9  $\text{e}^-$

**well suited for**  
EUV & soft X-ray applications

**high QE in the energy range**  
30 to 1000 eV

**usable with vacuum**  
down to  $1 \times 10^{-7}$  mbar

<b>interface</b>	USB 3.1 Gen 1
<b>sensor technology</b>	sCMOS PulSar
<b>spectral range [nm]</b>	1 to 1100 (1.2 keV to 1.1 eV)
<b>resolution [pixel]</b>	2048 x 2048
<b>sensor diagonal [mm]</b>	18.8
<b>pixel size [<math>\mu\text{m}</math>]</b>	6.5 x 6.5
<b>max. frame rate @ full resolution [fps]</b>	40 (16 bit)
<b>max. pixel rate [MPixel/s]</b>	184 (16 bit)
<b>peak QE</b>	> 95 % @ 2.28 nm
<b>typ. read noise<sup>1</sup> [<math>\text{e}^-</math>]</b>	1.9
<b>dark current @ sensor temperature [<math>\text{e}^-/\text{pixel}/\text{s}</math>]</b>	0.2 @ -25 °C
<b>max. dynamic range</b>	26,667:1
<b>shutter type</b>	RS (Rolling Shutter), GR (Global Reset)
<b>sensor cooling<sup>2</sup></b>	adjustable: from -25 °C to +20 °C peltier with forced air (fan) and water cooling calibration setpoint: -10 °C
<b>dimensions<sup>3</sup> H x W x L [mm]</b>	152 x 152 x 99
<b>opto-mechanical interface</b>	CF100-flange

<sup>1</sup> The readout noise values are given as median (med).

All values are raw data without any filtering.

<sup>2</sup> air = air forced with fan | water = external water connection

<sup>3</sup> incl. CF100-flange

## Explore extreme UV & soft X-ray

The pco.edge 4.2 bi XU is based on a back illuminated sCMOS sensor with a very specific coating which allows applications in the visible light down to extreme UV (EUV) and soft X-ray radiation. The camera is adapted for ultra-high vacuum operations and has been characterized using soft X-ray in the energy range from 30 eV to 1000 eV. The image sensor features 2048 x 2048 pixel with a pixel size of 6.5  $\mu\text{m}$  x 6.5  $\mu\text{m}$  and allows full frame acquisitions at 48 Hz with a dynamic range of 88 dB at a noise level of 1.9  $\text{e}^-$ . The camera is compact and offers various software integration options.



**pco.**

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