

# pco.edge 10 bi

the next level sCMOS



**back illuminated**  
with high MTF

**high resolution**  
4432 x 2368 pixel

**low readout noise**  
0.8 e<sup>-</sup>

**high dynamic range**  
25,000 : 1

**temperature-stabilized**  
image sensor

**fiber optic**  
data interface



the  
**next level**  
sCMOS

<b>interface</b>	CLHS FOL
<b>sensor technology</b>	back illuminated scientific CMOS (bi sCMOS), monochrome
<b>resolution [pixel]</b>	4432 x 2368
<b>pixel size [µm]</b>	4.6 x 4.6
<b>max. frame rate @ full resolution [fps]</b>	120
<b>max. pixel rate [MPixel/s]</b>	1467
<b>quantum efficiency [%]</b>	85
<b>min. read noise<sup>1</sup> [e<sup>-</sup>]</b>	0.8
<b>max. dynamic range</b>	25,000 : 1
<b>shutter type</b>	RS (Rolling Shutter)
<b>sensor cooling<sup>2</sup></b>	active cooling, air & water
<b>additional options</b>	lightsheet scanning mode <sup>3</sup> , lens control
<b>dimensions H x W x L [mm]</b>	95 x 90 x 109

<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> Selectable via software.

The pco.edge 10 bi is PCO's next level sCMOS camera with unprecedented imaging performance.

Thanks to its back illuminated image sensor it comes with a quantum efficiency of up to 85 % with broad spectrum out to NIR. The sensor incorporates microlenses and a full pixel height deep trench isolation for crosstalk suppression resulting in an excellent MTF.

Further, the camera provides a large image circle by using a high-resolution 10.5 MPixel image sensor with a square pixel size of 4.6 µm. An extremely low dark current and a readout noise of 0.8 electrons is achieved by thermal stabilization and active cooling of the sensor. Moreover, the sensor technology enables reduction of the noise peak and tail in addition, which makes it comparable to the noise behavior of CCD sensors. Together with a high full well capacity, this leads to a dynamic range of 25,000:1. The camera offers high frame rates of up to 120 fps and transmission via a fiber optical link.

All these features make the pco.edge 10 bi the first choice for applications in microscopy, life science, and physical science.