

## CMOS Camera

# DS1-D1024 SERIES

1 Megapixel resolution with proprietary Photonfocus sensor

### Features

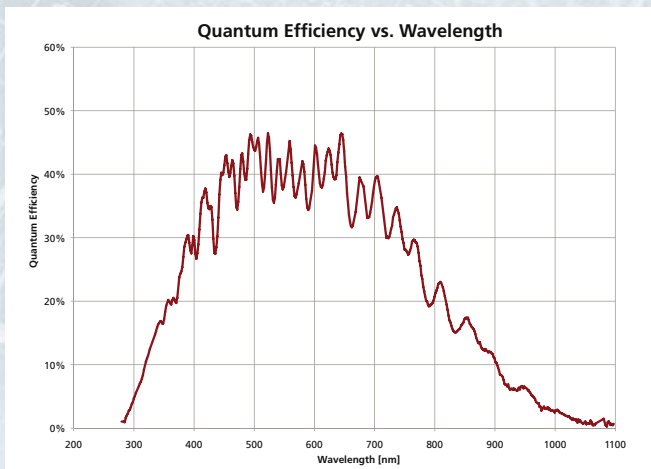
- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Dynamic range up to 60 dB
- Up to 150 fps @ full resolution
- Global shutter
- Monochrome
- Standard features
- CameraLink®, PoCL and USB 2.0 interface
- 10 bit greyscale resolution



Compatible with



### Spectral response of the Photonfocus A1024B CMOS image sensor





DS1-D1024-40-CL-10 DS1-D1024-40-PC-10 DS1-D1024-40-U2-10	DS1-D1024-80-CL-10 DS1-D1024-80-PC-10	DS1-D1024-160-CL-10 DS1-D1024-160-PC-10
--	--	--

Image Sensor	
Image sensor	Photonfocus A1024B (2. Generation)
Technology	CMOS active pixel (APS)
Scanning system	Progressive scan
Optical format / diagonal	1" (15.42 mm diagonal)
Resolution	1024 x 1024 pixels
Pixel size	10.6 µm x 10.6 µm
Active optical area	10.9 mm x 10.9 mm (maximum)
Dark current	2 fA/pixel @ 30°C
Full well capacity	~200 ke <sup>-</sup>
Spectral range	< 400 to 900 nm
Responsivity	120 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1)
Quantum Efficiency	45 % @ 550 nm
Optical fill factor	35 % (geometrical)
Dynamic range	Up to 60 dB
Colour format	Monochrome
Characteristic curve	Linear
Shutter mode	Global shutter
Read out mode	Sequential read out Sequential or simultaneous read out (read out during exposure)

Camera			
Exposure time	10 µs ... 0.41 s / 25 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.41 s / 25 ns steps
Frame rate	37 fps	75 fps	150 fps
Pixel clock	40 MHz		80 MHz
Camera taps	1	2	
Greyscale resolution	8 bit / 10 bit		
Fixed pattern noise (FPN)	< 2.5 DN RMS @ 8 bit / gain = 1		
Analogue gain	1		
Digital gain	1		
Configuration interface	CL SERIAL (9600 Baud)		
Trigger modes	<ul style="list-style-type: none"> <li>Free running (non triggered)</li> <li>Interface trigger</li> <li>External trigger input</li> </ul>		
Features	<ul style="list-style-type: none"> <li>Region of Interest (ROI)</li> <li>Image correction</li> <li>Image information</li> <li>Standard trigger input and strobe output functionality</li> </ul>		
Interface	CameraLink® Base PoCL - Power over CameraLink® Base USB 2.0	CameraLink® Base PoCL - Power over CameraLink® Base	
Operating temperature	0°C ... +60°C		
Power supply	+12 V DC (±10%)		
Power consumption	1.6 W (CL) / 3.0 W (USB 2.0)	3.0 W	3.2 W
Lens mount	C-Mount (CS-Mount optional)		
Dimensions (H x W x L)	55 x 55 x 32 mm <sup>3</sup> (CL) 55 x 55 x 43 mm <sup>3</sup> (USB 2.0)	55 x 55 x 40 mm <sup>3</sup>	
Mass	200 g	210 g	
Conformity	CE / RoHS / WEEE		
Specials	Adjustable backfocus; Opto-isolated I/Os		

Software	
Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK) USB 2.0: MicroDisplay (GUI) and PFLib (SDK)
OS	CL: Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request USB 2.0: win2k; winxp

All information provided in this flyer is believed to be accurate and reliable. No responsibility is assumed by Photonfocus AG for its use. Photonfocus AG reserves the right to make changes to this information without notice. Reproduction of this flyer in whole or in part, by any means, is prohibited without prior permission having been obtained from Photonfocus AG.