

CMOS Camera

MV-D1024E SERIES

1 Megapixel resolution with Photonfocus sensor

Features

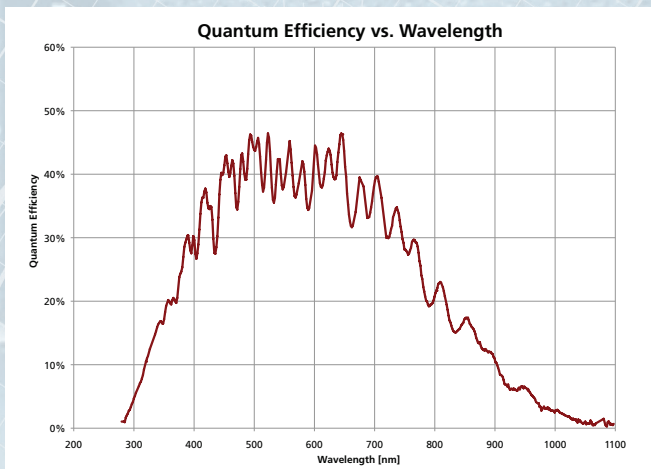
- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Dynamic range up to 120 dB via LinLog®
- Up to 150 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® and PoCL interface
- 12 bit greyscale resolution
- Boardlevel or OEM solution available



Compatible with



Spectral response of the Photonfocus A1024B CMOS image sensor





MV-D1024E-40-CL-12 MV-D1024E-40-PC-12	MV-D1024E-80-CL-12 MV-D1024E-80-PC-12	MV-D1024E-160-CL-12 MV-D1024E-160-PC-12
--	--	--

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 ⁻
Spectral range	< 400 to 900 nm
Responsivity	120 x 10 ³ DN / (J/m ²) @ 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	60 dB in linear mode; 120 dB with LinLog®
Colour format	Monochrome
Characteristic curve	Linear, LinLog®, Skimming
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
Frame rate	37 fps	75 fps
Pixel clock	40 MHz	
Camera taps	1	2
Greyscale resolution	8 bit / 10 bit / 12 bit	
Fixed pattern noise (FPN)	< 1 DN RMS @ 8 bit / gain = 1 / offset correction ON	
Analogue gain	1	
Digital gain	1 / 2 / 4	
Configuration interface	CL SERIAL (9600 Baud)	CL SERIAL (9600 or 57600 Baud, user selectable)
Trigger modes	<ul style="list-style-type: none"> Free running (non triggered) Interface trigger External trigger input 	
Features	<ul style="list-style-type: none"> Region of Interest (ROI) 16 Multiple ROI (MROI) Decimation X⁽¹⁾ and Y Image correction Look-up table (LUT) Constant frame rate Image information Extended trigger input and strobe output functionality 	
Interface	CameraLink® Base PoCL – Power over CameraLink® Base	CameraLink® Base PoCL – Power over CameraLink® Base
Operating temperature	0°C ... +60°C	
Power supply	+12 V DC (±10%)	
Power consumption	1.6 W	3.0 W
Lens mount	C-Mount (CS-Mount optional)	
Dimensions (H x W x L)	55 x 55 x 32 mm ³	55 x 55 x 40 mm ³
Mass	200 g	210 g
Conformity	CE / RoHS / WEEE	
Specials	Adjustable backfocus; Opto-isolated I/Os	

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

⁽¹⁾ Feature only available for MV-D1024E-40 cameras

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.