

CMOS Camera

MV1-D1312 SERIES

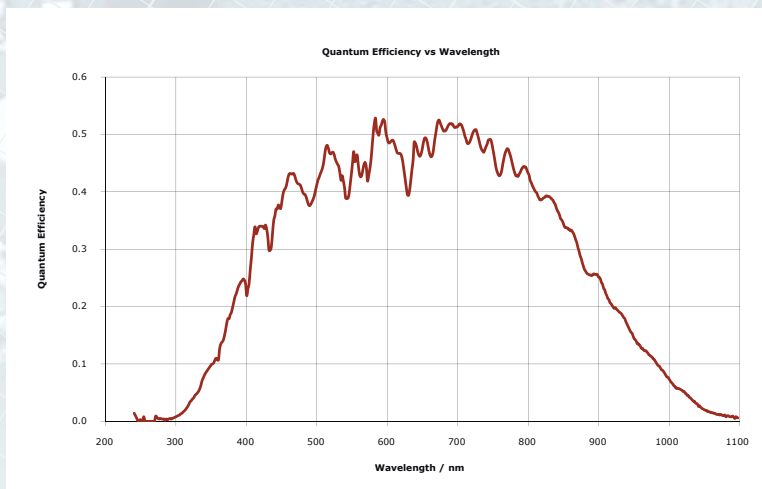
1.4 Megapixel resolution with proprietary Photonfocus sensor

Features

- Photonfocus A1312 CMOS image sensor
- 1312 x 1082 pixel resolution
- Good NIR response
- Dynamic range up to 120 dB via LinLog®
- Up to 170 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® and GigE interface
- 12 bit greyscale resolution



Spectral response of the Photonfocus A1312 CMOS image sensor



MV1-D1312-40-CL-12
MV1-D1312-40-GB-12

MV1-D1312-80-CL-12
MV1-D1312-80-GB-12

MV1-D1312-160-CL-12
MV1-D1312-100-GB-12

MV1-D1312-240-CL-8

Image Sensor

Image sensor	Photonfocus A1312 (3. Generation)		
Technology	CMOS active pixel (APS)		
Scanning system	Progressive scan		
Optical format / diagonal	1" (13.6 mm diagonal) maximum resolution 2/3" (11.6 mm diagonal) 1024 x 1024 resolution		
Resolution	1312 x 1082 pixels		1248 x 1082 pixels
Pixel size	8 µm x 8 µm		
Active optical area	10.48 mm x 8.64 mm (maximum)		
Dark current	0.65 fA/pixel		
Full well capacity	~100 ke ⁻		
Spectral range	< 370 to 1000 nm (to 10 % of peak responsivity)		
Responsivity	210 x 10 ³ DN / (J/m ²) @ 625 nm / 8 bit / gain = 1 (approximately 620 DN / (lux s) @ 625 nm / 8 bit / gain = 1)		
Quantum Efficiency	> 50 %		
Optical fill factor	> 60 %		
Dynamic range	60 dB in linear mode; 120 dB with LinLog®		
Colour format	Monochrome		
Characteristic curve	Linear, LinLog®		
Shutter mode	Global shutter		
Read out mode	Sequential read out or simultaneous read out (read out during exposure only in linear mode) for higher frame rates		

Camera

Exposure time	10 µs ... 1.68 s / 100 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.67 s / 40 ns steps (GigE)	10 µs ... 0.279 s / 16.67 ns steps
Frame rate	27 fps	55 fps	10 µs ... 0.41 s / 25 ns steps (CL)	170 fps
Pixel clock	40 MHz		50 MHz (GigE) / 80 MHz (CL)	
Camera taps	1		2	3
Greyscale resolution	8 bit / 10 bit / 12 bit			8 bit
Fixed pattern noise (FPN)	< 1 DN @ 8 bit / correction ON			
Analogue gain	1			
Digital gain	1 / 2 / 4 / 8			
Configuration interface	Gigabit Ethernet / 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 • Software trigger 			
Features	<ul style="list-style-type: none"> Region of Interest (ROI) • 512 Multiple ROI (MROI)⁽¹⁾ • Decimation Y⁽¹⁾ • Image correction • 2 Look-up tables (LUT)⁽¹⁾ Constant frame rate • Crosshair⁽¹⁾ • Convolver 3x3 • Temperature⁽¹⁾ • Image information Extended trigger input and strobe output functionality 			
Interface	CameraLink® Base or GigE			
Operating temperature	0°C ... +50°C			
Power supply	+12 V DC (±10%)			
Power consumption	2.5 W (CL) / < 4.5 W (GigE)	< 3.0 W (CL) / < 5.0 W (GigE)	3.3 W (CL) / < 5.2 W (GigE)	< 5.2 W
Lens mount	C-Mount (CS-Mount optional)			
Dimensions	60 x 60 x 45 mm ³ (CL) / 60 x 60 x 99 mm ³ (GigE)			
Mass	265 g (CL) / 465 g (GigE)			
Conformity	CE / RoHS / WEEE			
Specials	Adjustable backfocus; Opto-isolated I/Os			

Software

Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK) GigE: graphical user interface GEV Player and SDK
OS	win2k; winxp; winvista; other OS (Linux, QNX, etc) on request GigE: win2k; winxp; winvista

⁽¹⁾ Features only available for CameraLink® cameras (for GigE cameras on request)

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.