

CMOS Camera

MV1-D1312I SERIES

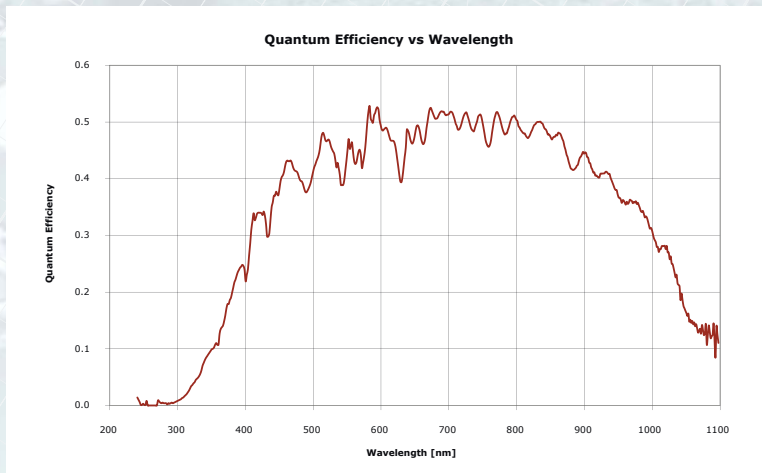
1.4 Megapixel resolution with proprietary Photonfocus sensor

Features

- Photonfocus A1312I CMOS image sensor
- 1312 x 1082 pixel resolution
- Excellent NIR response
- Dynamic range up to 120 dB via LinLog®
- Up to 108 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® and GigE interface
- 12 bit greyscale resolution



Spectral response of the Photonfocus A1312I CMOS image sensor





MV1-D13121-40-CL-12 MV1-D13121-40-GB-12	MV1-D13121-80-CL-12 MV1-D13121-80-GB-12	MV1-D13121-160-CL-12 MV1-D13121-100-GB-12
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Image Sensor	
Image sensor	Photonfocus A13121 (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
Pixel size	8 µm x 8 µm
Active optical area	10.48 mm x 8.64 mm (maximum)
Dark current	1.15 fA/pixel
Full well capacity	~100 ke ⁻
Spectral range	< 370 to 1100 nm (to 10 % of peak responsivity)
Responsivity	300 x 10 ³ DN / (J/m ²) @ 850 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)

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 ... 0.41 s / 25 ns steps (CL)
Frame rate	27 fps	55 fps	68 fps (GigE) / 108 fps (CL)
Pixel clock	40 MHz		50 MHz (GigE) / 80 MHz (CL)
Camera taps	1		2
Greyscale resolution	8 bit / 10 bit / 12 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)
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)

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