CMOS Camera

MV1-D1312I SERIES

1.4 Megapixel resolution with proprietary Photonfocus sensor

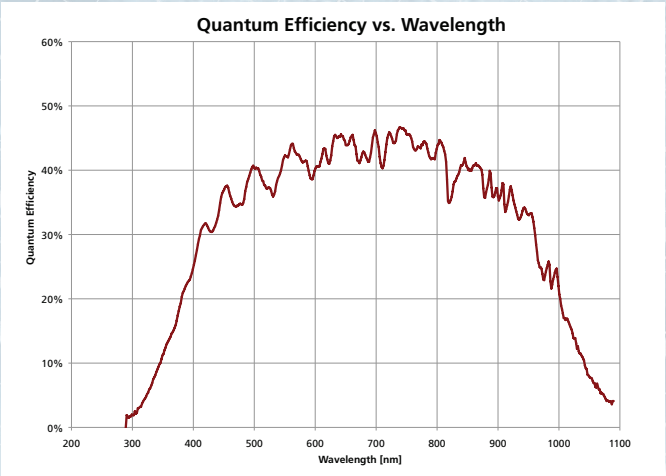
Features

- 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

Compatible with

HALCON LabVIEW MATROX IMAGING

Spectral response of the Photonfocus A1312I CMOS image sensor



	MV1-D1312I-40-CL-12 MV1-D1312I-40-GB-12	MV1-D1312I-80-CL-12 MV1-D1312I-80-GB-12	MV1-D1312I-160-CL-12 MV1-D1312I-100-GB-12
Image Sensor			
Image sensor	Photonfocus A1312I (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/m²) @ 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	(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 … 0.41 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, 57600 or 115'200 Baud, user selectable)		
Trigger modes	• Free running (non triggered) • Interface trigger • External trigger input • Software trigger		
Features	• 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 (H x W x L)	60 x 60 x 45 mm³ (CL) / 60 x 60 x 99 mm³ (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	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request		

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