

## CMOS Camera

# MV1-D1312C SERIES

1.4 Megapixel resolution with Photonfocus sensor

### Features

- Photonfocus A1312C CMOS image sensor
- 1312 x 1082 pixel resolution
- Integrated NIR cut-off filter<sup>(1)</sup>
- Exceptional SNR up to 300:1
- Dynamic range up to 60 dB
- Up to 170 fps @ full resolution
- Global shutter
- Colour (RGB Bayer)
- Standard features
- CameraLink® and GigE interface
- 12 bit output format
- Boardlevel or OEM solution available



LinLog®  
GIGEVISION  
GEN<I>CAM

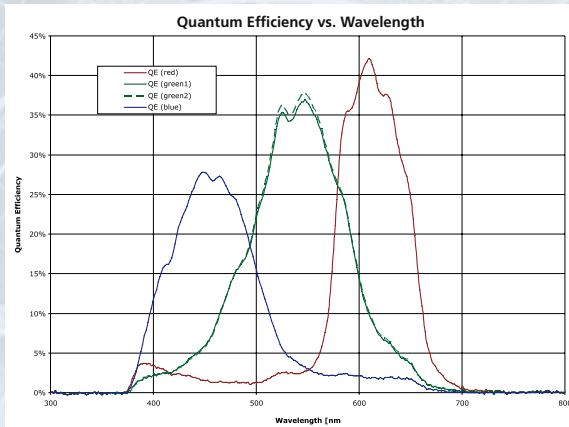


LinLog®  
CAMERALink

Compatible with



## Spectral response of the Photonfocus A1312C CMOS image sensor



MV1-D1312C-40-CL-12	MV1-D1312C-80-CL-12*	MV1-D1312C-160-CL-12	MV1-D1312C-240-CL-8*
MV1-D1312C-40-G2-12*	MV1-D1312C-80-G2-12	MV1-D1312C-100-G2-12*	

Image sensor	
Image sensor	Photonfocus A1312C (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	0.65 fA/pixel
Full well capacity / SNR	~90 ke / 300:1
Spectral range	390 to 670 nm (to 10% of peak responsivity) <sup>(1)</sup>
Responsivity	190 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 625 nm / 8 bit / gain = 1 (approximately 560 DN / (lux s) @ 625 nm / 8 bit / gain = 1)
Quantum Efficiency	> 40%
Optical fill factor	> 60%
Dynamic range	60 dB in linear mode
Colour format	RGB Bayer (raw)
Characteristic curve	Linear
Shutter mode	Global shutter
Read out mode	Sequential or simultaneous read out (read out during exposure) 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)   68 fps (GigE) / 108 fps (CL)   170 fps
Pixel clock	40 MHz		80 MHz (CL) / 50 MHz (GigE)
Camera taps	1	1 (GigE) / 2 (CL)	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		0.1 to 15.99 (Fine Gain)	
Configuration interface		CL SERIAL (Baudrate user selectable) (CL) / Gigabit Ethernet (GigE)	
Trigger modes		• Free running (non triggered) • Interface trigger • External trigger input • Software trigger	
Features		• Region of Interest (ROI) • 512 Multiple ROI (MROI) • Decimation Y • Image correction • 2 Look-up tables (LUT) • Constant frame rate • Crosshair • Convolver 3x3 • Temperature • 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%) (CL) / +12 V ... +24 V DC (±10%) (GigE)	
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 (CL)	
Lens mount		C-Mount (CS-Mount optional)	
Dimensions (H x W x L)		60 x 60 x 45 mm <sup>3</sup> (CL) / 60 x 60 x 51 mm <sup>3</sup> (GigE)	
Mass		265 g (CL) / 310 g (GigE)	
Conformity		CE / RoHS / WEEE	
Specials		Adjustable backfocus; Opto-isolated I/Os; Dual RS-422 Inputs (GigE)	

Software	
Camera control	PFRremote™ graphical user interface (GUI) and PFLib (SDK); GigE: graphical user interface GEV Player and SDK; All 3rd party tools providing full support for GigE Vision and GenICam
OS	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request

<sup>(1)</sup> A1312C image sensor available without NIR cut-off filter on request

\* Model available upon request