

CMOS Camera

# DS1-D1312 SERIES

1.4 Megapixel resolution with Photonfocus sensor

## Features

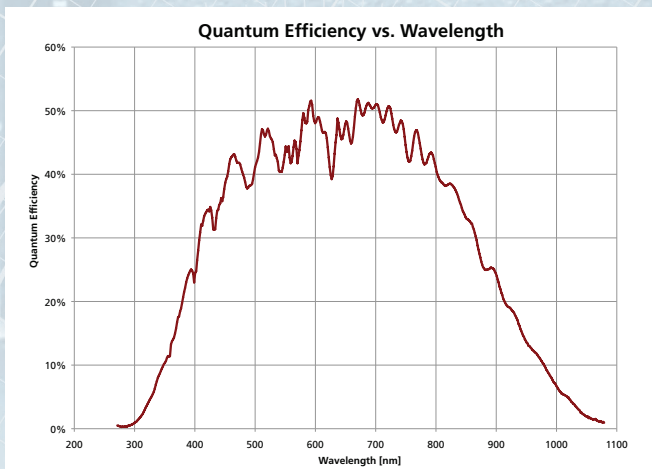
- Photonfocus A1312 CMOS image sensor
- 312 x 1082 pixel resolution
- Good NIR spectral response
- Exceptional SNR up to 300:1
- Dynamic range up to 60 dB
- Up to 108 fps @ full resolution
- Global shutter
- Monochrome
- Standard features
- CameraLink® interface
- 10 bit greyscale resolution



Compatible with



Spectral response of the Photonfocus A1312 CMOS image sensor





DS1-D1312-40-CL-10	DS1-D1312-80-CL-10	DS1-D1312-160-CL-10
--------------------	--------------------	---------------------

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
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	< 370 to 1000 nm (to 10% of peak responsivity)
Responsivity	210 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 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	Up to 60 dB
Colour format	Monochrome
Characteristic curve	Linear
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 ... 0.41 s / 25 ns steps
Frame rate	27 fps	55 fps	108 fps
Pixel clock	40 MHz		80 MHz
Camera taps	1		2
Greyscale resolution	8 bit / 10 bit		
Fixed pattern noise (FPN)	< 1 DN @ 8 bit / correction ON		
Analogue gain	1		
Digital gain	1		
Configuration interface	CL SERIAL (9600 Baud)		
Trigger modes	<ul style="list-style-type: none"> <li>• Free running (non triggered) • Interface trigger • External trigger input</li> </ul>		
Features	<ul style="list-style-type: none"> <li>• Region of Interest (ROI) • Image correction</li> <li>• Standard trigger input and strobe output functionality</li> </ul>		
Interface	CameraLink® Base		
Operating temperature	0°C ... +50°C		
Power supply	+12 V DC (±10%)		
Power consumption	2.5 W	< 3.0 W	< 3.3 W
Lens mount	C-Mount (CS-Mount optional)		
Dimensions (H x W x L)	60 x 60 x 45 mm <sup>3</sup>		
Mass	265 g		
Conformity	CE / RoHS / WEEE		
Specials	Adjustable backfocus; Opto-isolated I/Os		

Software	
Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK)
OS	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) 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.