

CMOS Camera

DR1 SERIES WITH PHOTONFOCUS SENSOR

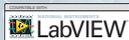
1.4 or 4.3 Megapixel resolution with Photonfocus sensor

Features

- Photonfocus A1312 or A2080 CMOS image sensor
- 1312 x 1082 or 2080 x 2080 pixel resolution
- Good NIR spectral response
- Exceptional SNR up to 300:1
- Dynamic range up to 120 dB via LinLog®
- Up to 135 fps (1.4 Mp), 42 fps (4Mp), 600 fps (544 x 544 pixel)
- Photonfocus Double Rate technology
- Global shutter
- Monochrome
- GigE interface (GigE Vision and GenICam compatible with standard single cable connection)
- 8 bit greyscale resolution
- Boardlevel or OEM solution available



Compatible with



Advantages

- ~100 % faster than standard GigE cameras
- Modulation can be disabled to transmit original image data
- No Link-Aggregation



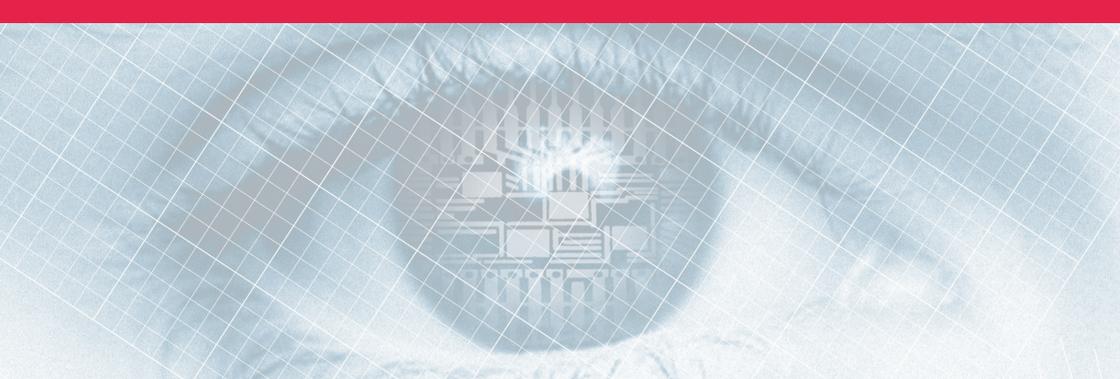
Original image



Modulated-demodulated
image



Detailed view



DR1-D1312-200-G2-12	DR1-D2080-200-G2-12*
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	Image Sensor	
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	Photonfocus A1312 (3. Generation)	Photonfocus A2080 (3. Generation)	
Image sensor	CMOS active pixel (APS)		
Technology	Progressive scan		
Scanning system			
Optical format / diagonal	1" (13.6 mm diagonal) maximum resolution 2/3" (11.6 mm diagonal) 1024 x 1024 resolution 1312 x 1082 pixels	23.5 mm diagonal @ max. resolution (< 25 mm image circle) 2080 x 2080 pixels	
Resolution	8 µm x 8 µm		
Pixel size	10.48 mm x 8.64 mm (maximum)	16.64 mm x 16.64 mm (maximum)	
Active optical area	0.65 fA/pixel		
Dark current	~90 ke ⁻¹ (Max SNR > 300:1)		
Full well capacity / SNR	< 370 to 1000 nm (to 10% of peak responsivity)		
Spectral range	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)		
Responsivity	> 50%		
Quantum Efficiency	> 60%		
Optical fill factor	60 dB in linear mode; 120 dB with LinLog®		
Dynamic range	Monochrome		
Colour format	Linear, LinLog®		
Characteristic curve	Global shutter		
Shutter mode	Sequential read out or simultaneous read out (read out during exposure only in linear mode) for higher frame rates		
Read out mode			

	Camera	
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	10 µs ... 0.33 s / 25ns steps	10 µs ... 0.33 s / 25ns steps	
Exposure time	135 fps (full resolution), 577 fps (VGA)	42 fps (full resolution)	
Frame rate	50 MHz		
Pixel clock	1		
Camera taps	8 bit / 10 bit ⁽¹⁾ / 12 bit ⁽¹⁾		
Greyscale resolution	< 1 DN @ 8 bit / correction ON		
Fixed pattern noise (FPN)	1		
Analogue gain	0.1 to 15.99 (Fine Gain)		
Digital gain	GigE		
Configuration interface	• Free running (non triggered) • Interface trigger • External trigger input • Software trigger		
Trigger modes	• Region of Interest (ROI) • 512 Multiple ROI (MROI) • Decimation Y • Image correction • 2 Look-up tables (LUT)		
Features	• Constant frame rate • Crosshair • Convolver 3x3 • Temperature • Image information • Extended trigger input and strobe output functionality • Modulation can be disabled to transmit original image data		
Interface	GigE		
Operating temperature	0°C ... +50°C		
Power supply	+12 V ... +24 V DC (±10%)		
Power consumption	< 5.2 W		
Lens mount	C-Mount (CS-Mount optional)	M42x1, F-Mount, C-Mount 1.3"	
Dimensions (H x W x L)	60 x 60 x 51 mm ³	60 x 60 x 47 mm ³	
Mass	222 g	294 g	
Conformity	CE / RoHS / WEEE		
Specials	Adjustable backfocus; Opto-isolated I/Os; Dual RS-422 Inputs Evaluation software for the Double Rate Technology		

	Software	
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	GUI (GEVPlayer) and Pleora SDK for image acquisition and development of applications		
Camera control	Demodulator DLL for implementation in GigE Vision and GenICam compatible image processing platforms		
	HALCON extension package with demodulator sample		
OS	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request		

⁽¹⁾ If DR Mode active, 8 bit greyscale output only
* Model available upon request

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