

CMOS Camera

DR1-SERIES

1.4 or 4.3 Megapixel resolution with Photonfocus sensor

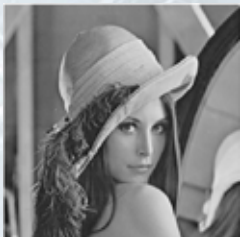
Features

- 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

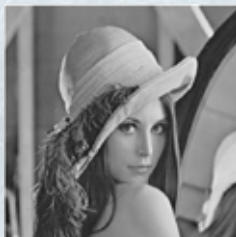


Advantages

- ~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*

Image Sensor		
Image sensor	Photonfocus A1312 (3. Generation)	Photonfocus A2080 (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	23.5 mm diagonal @ max. resolution (< 25 mm image circle) 2080 x 2080 pixels
Resolution	1312 x 1082 pixels	
Pixel size	8 µm x 8 µm	
Active optical area	10.48 mm x 8.64 mm (maximum)	16.64 mm x 16.64 mm (maximum)
Dark current	0.65 fA/pixel	
Full well capacity / SNR	~90 ke ⁻¹ (Max SNR > 300:1)	
Spectral range	< 370 to 1000 nm (to 10% of peak responsivity)	
Responsivity	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)	
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 only in linear mode) for higher frame rates	
Camera		
Exposure time	10 µs ... 0.33 s / 25ns steps	10 µs ... 0.33 s / 25ns steps
Frame rate	135 fps (full resolution), 577 fps (VGA)	42 fps (full resolution)
Pixel clock	50 MHz	
Camera taps	1	
Greyscale resolution	8 bit / 10 bit ⁽¹⁾ / 12 bit ⁽¹⁾	
Fixed pattern noise (FPN)	< 1 DN @ 8 bit / correction ON	
Analogue gain	1	
Digital gain	0.1 to 15.99 (Fine Gain)	
Configuration interface	GigE	
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) • 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 • 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		
Camera control	GUI (GEVPlayer) and Pleora SDK for image acquisition and development of applications 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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