

## CMOS Camera

# MV1-D2048x1088 SERIES

2.2 Megapixel resolution with CMOS image sensor

### Features

- CMOSIS CMV2000 CMOS image sensor
- 2048 x 1088 pixel resolution
- Available in monochrome, enhanced NIR and color
- Suitable for standard and low light applications
- Up to 105 fps @ full resolution
- Global shutter
- Extended features
- Global shutter
- CameraLink® and GigE interface
- 10 bit greyscale resolution
- Configuration via register based ASCII protocol possible
- Boardlevel or OEM solution available

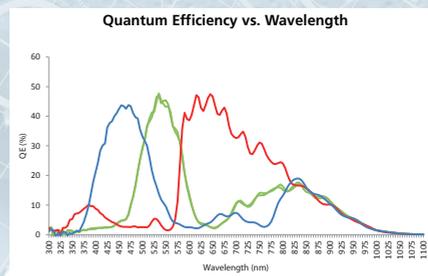
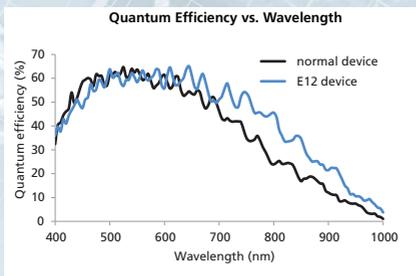


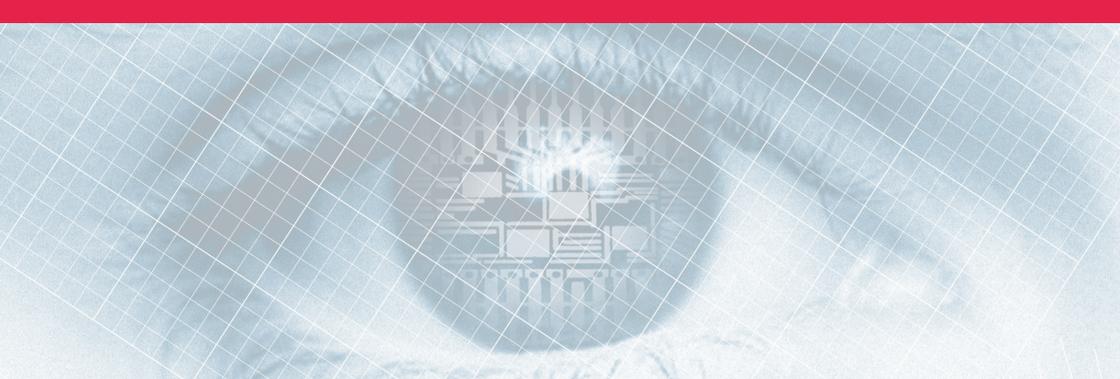
**GigE**  
VISION  
GEN iCAM



**CAMERA**  
**Link**

Spectral response of the CMOSIS CMV2000 CMOS image sensor monochrome (left) and color (right)





DR1-D2048x1088-G2-192-8	MV1-D2048x1088-G2-80-12	MV1-D2048x1088-160-CL-12 MV1-D2048x1088-96-G2-12	MV1-D2048x1088-240-CL-8
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Image Sensor	
Image sensor	CMOSIS CMV2000
Technology	CMOS active pixel (APS)
Scanning system	Progressive scan
Optical format / diagonal	2/3" (12.76 mm diagonal)
Resolution	2048 x 1088 pixels
Pixel size	5.5 µm x 5.5 µm
Active optical area	11.26 mm x 5.984 mm (maximum)
Dark current	125 e <sup>-</sup> /s @ 25°C
Full well capacity / SNR	~13.5 ke <sup>-</sup>
Spectral range	< 350 to 900 nm (to 10 % of peak responsivity)
Sensitivity	5.56 V / lux.s
Quantum Efficiency	60 % @ 550 nm with micro lenses
Optical fill factor	42 % without micro lenses
Dynamic range	60 dB in linear mode
Colour format	Monochrome, Colour, enhanced NIR
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter
Read out mode	Simultaneous read out (read out during exposure)

Camera			
Exposure time	12.56 µs ... 0.349 s	14.87 µs ... 0.419 s	12.56 µs ... 0.349 s
Frame rate	85	35 fps	105 fps
Pixel clock	48 MHz	40 MHz	80 MHz
Camera taps	1	1 (GigE) / 2 (CL)	3
Greyscale resolution	8 bit / 10 bit <sup>(1)</sup>	8 bit / 10 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) <sup>(1)</sup>		
Configuration interface	CL SERIAL (Baudrate user selectable) (CL) / Gigabit Ethernet (GigE)		
Trigger modes	<ul style="list-style-type: none"> <li>• Free running (non triggered) • Interface trigger • External trigger input • Software trigger</li> </ul>		
Features	<ul style="list-style-type: none"> <li>• Region of Interest (ROI) • 512 Multiple ROI (MROI) • Decimation Y • 2 Look-up tables (LUT)</li> <li>• Constant frame rate • Crosshair • Convolver 3x3 • Temperature • Image information</li> <li>• Extended trigger input and strobe output functionality</li> <li>• Modulation can be disabled to transmit original image data<sup>(2)</sup></li> </ul>		
Interface	CameraLink® Base or GigE (GigE Vision & GenICam compliant)		
Operating temperature	0°C ... +50°C		
Power supply	+12 V DC (±10%) (CL) / +12 V ... +24 V DC (±10%) (GigE)		
Power consumption	< 4.2 W		
Lens mount	C-Mount (CS-Mount optional)		
Dimensions (H x W x L)	60 x 60 x 42 mm <sup>3</sup> (CL) / 60 x 60 x 51.5 mm <sup>3</sup> (GigE)		
Mass	230 g (CL) / 265 g (GigE)		
Conformity	CE / RoHS / WEEE		
Specials	Adjustable backfocus; Opto-isolated I/Os ; Dual RS-422 Inputs (GigE); Evaluation software for the Double Rate Technology		

Software	
Camera control	PFRemote™ 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 Demodulator DLL for implementation in GigE Vision and GenICam compatible image processing platforms <sup>(2)</sup> ; HALCON extension package with demodulator sample <sup>(2)</sup>
OS	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request

<sup>(1)</sup> If DR Mode active, 8 bit greyscale output only; 10 bit via LUT

<sup>(2)</sup> Applicable for DR Camera only

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