

MV-D1024E SERIES

Enhanced High-Dynamic Cameras

Features

- 1024 x 1024 pixel resolution
- Global shutter
- Dynamic range up to 120 dB via LinLog®
- Up to 150 fps @ full resolution
- Sensor without cover glass
- Multiple Regions of Interest (MROI)
- CameraLink® and USB 2.0 interfaces
- 12 bit greyscale
- Superior Signal-to-Noise Ratio (SNR)
- On-camera shading correction
- Look-up Table (LUT)
- CE, RoHS & WEEE compliant

Application Examples

Machine vision

- Standard vision applications
- Quality control
- PCB inspection
- Welding & soldering
- Laser triangulation
- Packaging inspection
- Keyhole analysis

Motion analysis

- Slow-motion sequences
- Biomedical applications



Accessories

- Power & signal connector 7 pin (included in the shipment)
- Digipeater CameraLink® repeater enables extended cable lengths (CameraLink® cameras only).
- See section Accessories in this booklet for further details. Lenses are not included.

MV-D1024E-40-CL-12
 MV-D1024E-40-U2-12

MV-D1024E-80-CL-12

MV-D1024E-160-CL-12

Image Sensor

Image sensor	Photonfocus A1024B (2. generation)	
Technology	CMOS active pixel	
Scanning system	Progressive scan	
Optical format / diagonal	1" / 15.42 mm	
Resolution	1024 x 1024 pixels	
Pixel size	10.6 µm x 10.6 µm	
Active optical area	10.9 mm x 10.9 mm	
Random noise	< 0.5 DN RMS @ 8 bit / gain = 1	
Fixed pattern noise (FPN)	< 1.0 DN RMS @ 8 bit / gain = 1 / offset correction on	
Dark current	2 fA / pixel @ 30 °C	
Full well capacity	200 ke ⁻	
Spectral range	400 nm ... 900 nm	
Responsivity	120 x 10 ³ DN / (J/m ²) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1)	
Optical fill factor	35 %	
Dynamic range	Up to 120 dB with LinLog®	
Colour format	Monochrome	
Characteristic curve	Linear, LinLog®, Skimming	
Shutter mode	Global shutter	
Read out mode	Sequential exposure	Sequential read out or simultaneous read out (read out during exposure)

Camera

Exposure time	10 µs ... 0.41 s / 25 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.41 s / 25 ns steps
Frame rate CL	37 fps	75 fps	150 fps
Frame rate USB2.0	Up to 37 fps (mode & bitdepth dependent)	-	-
Pixel clock	40 MHz	40 MHz	80 MHz
Camera taps	1	2	2
Greyscale resolution	12 bit / 10 bit / 8 bit		
Analogue gain	1		
Digital gain	1 or 2 or 4		
Configuration interface	CL SERIAL (9600 baud)	CL SERIAL (9600 baud or 57600 baud, user selectable)	
Trigger modes	<ul style="list-style-type: none"> • Free running (non triggered) • Interface trigger • I/O trigger 		
Features	<ul style="list-style-type: none"> • (Multiple) Regions of interest (ROI/MROI) • On-camera shading correction • Decimation in x (only MV-D1024E-40) and y direction • Look-up Table • Image information • Enhanced trigger features • Skimming • LinLog® • Trigger input • Strobe output 		
Interfaces	CameraLink® base or USB 2.0 configuration	CameraLink® base configuration	
Operating temperature	0 °C ... +60 °C		
Power supply	+12 V DC (+/-10 %)		
Power consumption	1.6 W (CL) / 3.0 W (USB 2.0)	3.0 W	3.2 W
Lens mount	C-Mount (CS-Mount optional)		
Dimensions (C-Mount)	55 x 55 x 32 mm ³ (CL) 55 x 55 x 48 mm ³ (USB 2.0)	55 x 55 x 40 mm ³	55 x 55 x 41 mm ³
Mass	200 g		
Conformity	CE / RoHS / WEEE		
Special	Adjustable backfocus		

Software

Camera control OS	PFRemote™ graphical user interface (GUI) and PFLib (SDK); for USB 2.0: MicroDisplay GUI + SDK win2k; winxp; winvista; other OS (Linux, QNX, etc.) on request
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