

## Megapixel Cameras

# MV-D1024E SERIES

## Enhanced High-Dynamic Cameras

### Features

- 1024 x 1024 pixel resolution
- Global shutter
- LinLog<sup>®</sup> functionality
- Dynamic range up to 120 dB
- Up to 150 fps @ full resolution
- Multiple Regions of Interest (MROI)
- CameraLink<sup>®</sup> 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

- Suitable power supply 12 Volt
- Power & signal connector 7 pin (included in the shipment)
- USB & CL cables
- A selection of suitable lenses is available on our website [www.photonfocus.com](http://www.photonfocus.com). Lenses are not included.



MV-D1024E-40	MV-D1024E-80	MV-D1024E-160
--------------	--------------	---------------

**Image Sensor**

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 <sup>-</sup>		
Spectral range	400 nm ... 900 nm		
Responsivity	120 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 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	28 MHz	40 MHz	80 MHz
Camera taps	1	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 or 57600 baud, user selectable)		
Trigger modes	• Free running (non triggered) • Interface trigger • I/O trigger		
Features	• (Multiple) Regions of interest (ROI/MROI) • On-camera shading correction • Decimation in x / 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 <sup>3</sup> (CL) 55 x 55 x 43 mm <sup>3</sup> (USB 2.0)	55 x 55 x 40 mm <sup>3</sup>	55 x 55 x 41 mm <sup>3</sup>
Mass	200 g	210 g	
Conformity	CE / RoHS / WEEE		
Special	Adjustable backfocus		

**Software**

Camera control	PFRremote™ graphical user interface (GUI) and PFLib (SDK); for USB 2.0: MicroDisplay GUI + SDK
----------------	--