

MV-D1024E-PP01 SERIES

Pipeline processors for image preprocessing

*Pixel
Professor*TM

Features

- 1024 x 1024 pixel resolution
- Global shutter
- Dynamic range up to 120 dB via LinLog[®]
- Up to 75 fps @ full resolution
- Sensor without cover glass
- Faster frame rates with Multiple Regions of Interest (MROI) in x and y directions
- CameraLink[®] interfaces
- Superior Signal-to-Noise Ratio (SNR)
- On-camera shading correction
- Look-up Table (LUT)
- Pipeline processor with up to three parallel data paths
- CE, RoHS & WEEE compliant



Application Examples

Machine vision

- Standard vision applications
- Quality control
- PCB inspection
- Welding and 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.
- See section Accessories in this booklet for further details. Lenses are not included.



MV-D1024E-PP01-40-CL-8

MV-D1024E-PP01-80-CL-8

Image Sensor

Image sensor	Photonfocus A1024B (2. generation)	
CMOS active pixel (APS)	CMOS active pixel (APS)	
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)	< 2.5 DN RMS @ 8 bit / gain = 1	
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 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
Frame rate	37 fps	75 fps
Pixel clock	40 MHz	
Camera taps	1	2
Greyscale resolution	8 bit (12 bit / 10 bit without Pixel Professor®)	
Analogue gain	1	
Digital gain	1 or 2 or 4	
Configuration interface	CL SERIAL (9600 or 57600 baud, user selectable)	
Trigger modes	<ul style="list-style-type: none"> • Free running (non triggered) • Interface trigger I/O • Trigger • Multiple Regions of interest (MROI) • On-camera shading correction • Decimation in x / y direction for higher frame rates • Look-up Table (LUT) • Image information • Enhanced trigger features • Skimming • LinLog® • Trigger input • Strobe output • Image processing with convolvers • Median filter • Pixel arithmetic • Pipeline processors 	
Interface	CameraLink® base configuration	
Operating temperature	0 °C ... +60 °C	
Power supply	+12 V DC (+/- 10%)	
Power consumption	2.6 W	4.0 W
Lens mount	C-Mount (CS-Mount optional)	
Dimensions	55 x 55 x 40 mm ³	55 x 55 x 47.5 mm ³
Mass	220 g	245 g
Conformity	CE / RoHS / WEEE	
Special	Adjustable backfocus	

Software

Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK)
Pixel Professor® configuration	Pixel Professor® Lab (PP Lab)
OS	win2k; winxp; winvista; other OS (Linux, QNX, etc.) on request