

CMOS 3D Camera

MV-D1024E-3D01-160-CL-12

1 Megapixel 3D camera for laser triangulation applications

Features

- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Realtime laserline Peak Detection algorithm on camera
- Dynamic range up to 120 dB via LinLog®
- Up to 2500 profiles/s @ 1024 x 32 pixel resolution
- Global shutter
- Monochrome
- CameraLink® interface
- 12 bit greyscale resolution

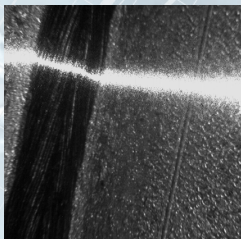


Compatible with

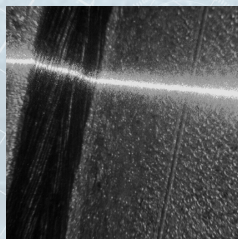


Advantages

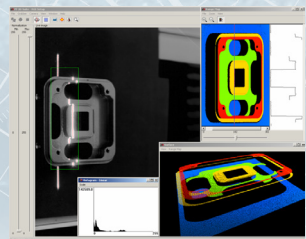
- No additional calculations on CPU
- Reduction of vision system computer CPU load
- PF 3D Suite, a free GUI for an easy system set up and visualisation of 3D scans
- Higher accuracy and robustness through new Peak Detection algorithm



Standard camera
with linear response (< 60 dB)



Photonfocus CMOS camera
with LinLog® response (120 dB)



PF 3D Suite

MV-D1024E-3D01-160-CL-12

Image sensor	
Image sensor	Photonfocus A1024B (2. Generation)
Technology	CMOS active pixel (APS)
Scanning system	Progressive scan
Optical format / diagonal	1" (15.42 mm diagonal)
Resolution	1024 x 1024 pixels
Pixel size	10.6 µm x 10.6 µm
Active optical area	10.9 mm x 10.9 mm (maximum)
Dark current	2 fA/pixel @ 30°C
Full well capacity	~200 ke ⁻
Spectral range	< 400 to 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)
Quantum Efficiency	45 % @ 550 nm
Optical fill factor	35 % (geometrical)
Dynamic range	60 dB in linear mode; 120 dB with LinLog®
Colour format	Monochrome
Characteristic curve	Linear, LinLog®, Skimming
Shutter mode	Global shutter
Read out mode	Sequential or simultaneous read out (read out during exposure)

Camera	
Exposure time	10 µs ... 0.41 s / 25 ns steps
Frame rate	150 fps @ full resolution / 2500 fps @ 1024 x 32 resolution / 3900 fps @ 512 x 32 resolution
Pixel clock	80 MHz
Camera taps	2
Greyscale resolution	8 bit / 10 bit / 12 bit
Fixed pattern noise (FPN)	< 1 DN RMS @ 8 bit / gain = 1 / offset correction ON
Analogue gain	1
Digital gain	1 / 2 / 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 External trigger input
Features	<ul style="list-style-type: none"> Region of Interest (ROI) 16 Multiple ROI (MROI) Decimation Y Image correction Look-up table (LUT) Constant frame rate Image information Peak Detector Extended trigger input and strobe output functionality
Interface	CameraLink® Base
Operating temperature	0°C ... +50°C
Power supply	+12 V DC (±10%)
Power consumption	3.7 W
Lens mount	C-Mount (CS-Mount optional)
Dimensions (H x W x L)	55 x 55 x 40 mm ³
Mass	210 g
Conformity	CE / RoHS / WEEE
Specials	Adjustable backfocus; Opto-isolated I/Os

Software	
Camera control	PF 3D Suite graphical user interface (GUI) and PF3DLib (SDK)
OS	win2k; winxp; winvista; other OS (Linux, QNX, etc) on request

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