ADEPT TURNKEY
The Machine Vision and Imaging Specialists
Perth: +61 (08) 9242 5411 Sydney: +61 (02) 9979 2599
Melbourne: +61 (03) 9350 7377
Email: adept@adept.net.au
Web: http//www.adept.net.au

photon focus

CMOS Smart Camera

SM2-D1024-80-GB-12

1 Megapixel smart camera with programmable DSP

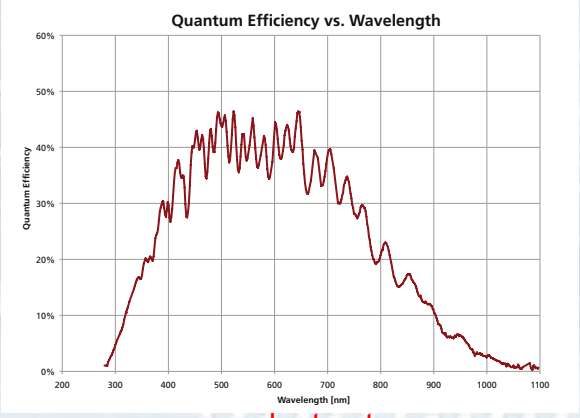
Features

- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Programmable Texas Instruments DSP
- HALCON Embedded compatible
- Dynamic range up to 120 dB via LinLog®
- Up to 75 fps @ full resolution
- Global shutter
- Monochrome
- GigE interface
- 12 bit greyscale resolution

Compatible with

HALCON Embedded

Spectral response of the Photonfocus A1024B CMOS image sensor



SM2-D1024-80-GB-12
VisionCam PS Type 1*

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/m²) @ 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 … 0.83 s / 50 ns steps
Frame rate	75 fps
Pixel clock	40 MHz
Camera taps	2 (internal)
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	Built-in Webserver
Trigger modes	• Free running (non triggered) • Interface trigger • External trigger input
Features	• Region of Interest (ROI) • 16 Multiple ROI (MROI) • Decimation Y • Image correction • Look-up table (LUT) • Constant frame rate • Image information • Realtime clock • FTP Server • Extended trigger input and strobe output functionality
CPU / RAM / Storage	Texas Instruments TMS320 C6415 @ 1GHz, 8000 MIPS / 256 MB SDRAM / 2 GB SD Card
Interface	GigE
Operating temperature	0°C … +50°C
Power supply	+12 V DC (±10 %)
Power consumption	8.0 W
Lens mount	C-Mount (CS-Mount optional)
Dimensions (H x W x L)	60 x 60 x 127 mm³
Mass	532 g
Conformity	CE / RoHS / WEEE
Specials	Adjustable backfocus; Opto-isolated I/Os; JTAG, RS232 Interface, RS422 Interface

Software

Camera control	Built-in webserver
DSP Development tools	Texas Instruments Code Composer Studio 3.3, HALCON Embedded

* Product name used by Imago Technologies

All information provided in this flyer is believed to be accurate and reliable. No responsibility is assumed by Photonfocus AG for its use. Photonfocus AG reserves the right to make changes to this information without notice. Reproduction of this flyer in whole or in part, by any means, is prohibited without prior permission having been obtained from Photonfocus AG.

Version 1.1.8 I Nov 11

www.adept.net.au