MV1-D1280-L01-1280-G2

The CMOS camera MV1-D1280-L01-1280-G2 was developed for advanced machine vision applications, motion analysis and demanding applications of optical metrology.

Features

- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- 85fps streaming and 948fps in burst mode
- Global shutter
- Extended sensor and camera features
- A/B shaft encoder interface
- GigEVision interface

© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

Quantum Efficiency Image Sensor

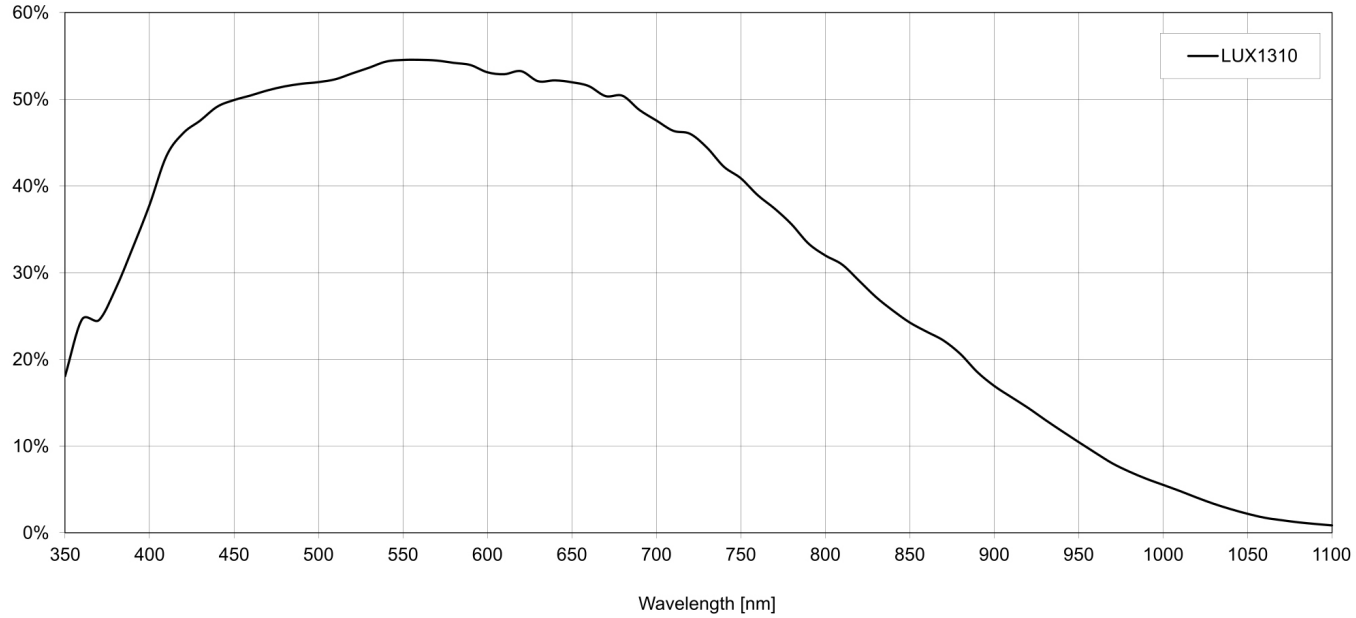


Image Sensor Specifications

Manufacturer / Type	LUXIMA, LUX1310
Technology	CMOS
Optical format	2/3"
Optical diagonal	10.82mm
Resolution	1280 x 1024
Pixel size	6.6µm x 6.6µm
Active optical area	8.45mm x 6.76mm
Dark current	41100e-/s
Read out noise	25e-
Full well capacity / SNR	17ke- / 130:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity)
Responsivity	Monochrome: 994 x 10^3 DN / (J/m^2) @ 560nm / 8bit
Quantum Efficiency	Monochrome: < 54%
Optical fill factor	45 % (without micro lenses)
Dynamic range	57dB
Characteristic curve	Linear
Shutter mode	Global shutter

© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

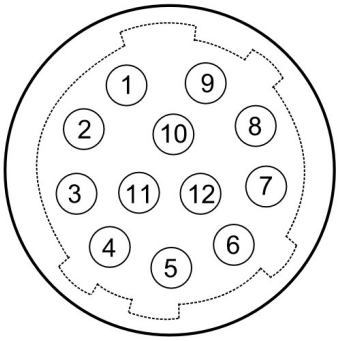
Camera Specifications

Interface	GigE
Frame rate	85fps (948fps in burst mode)
Pixel clock	80MHz
Camera taps	1
Greyscale resolution	8, 10 and 12 Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, AB-Trigger
Features	High Speed Burst Mode with internal 256 MByte RAM memory, Linear Mode / multiple slope (High Dynamic Range Mode), Configurable region of interest (ROI), up to 8 MROI, 256 configurable region elements with binning options, Two crosshair overlays for measurements and adjustments, Temperature monitoring of camera, Low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Isolated inputs (2 single ended, 2 differential) and outputs (2 single ended), A/B shaft encoder interface (RS-422 (G2 models) or HTL (H2 models))
Operation temperature / moisture	0°C ... + 40°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	+12VDC (-10%) ... +24VDC (+10%)
Power consumption	< 8.7W
Lens mount	C-Mount (CS-Mount optional)
I/O Inputs	2x Opto-isolated 2x RS-422 or HTL Opto-isolated for AB-Trigger
I/O Outputs	2x Opto-isolated
Dimensions	55 x 55 x 51mm³
Mass	258g
Connector I/O (Power)	Hirose 12-pole (mating plug HR10A-10P-12S)
Connector Interface	RJ-45
Conformity	CE / RoHS / WEEE
IP Code	IP40

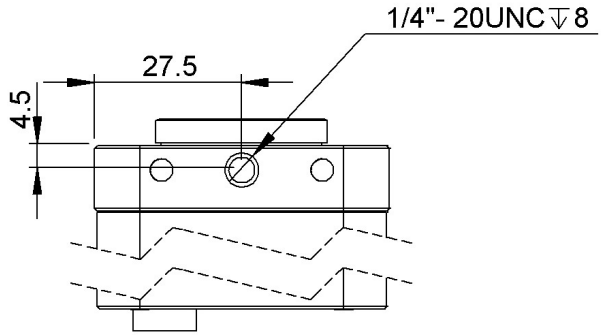
© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

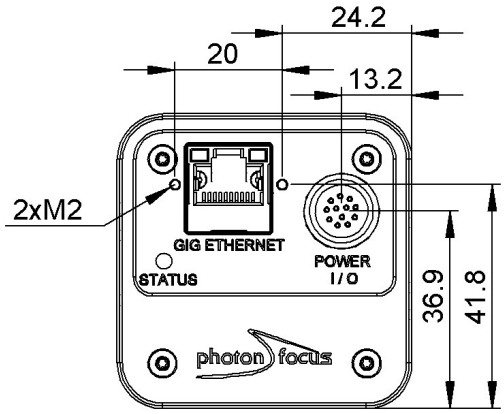
Connectors

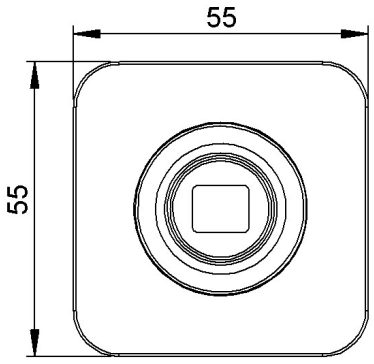
Pin	I/O Type	Name	Description
1	PWR	CAMERA_GND	Camera GND 0V
2	PWR	CAMERA_PWR	Camera Power 12V... 24V
3	O	ISO_OUT0	Default Strobe out, internally Pulled up to ISO_PWR with 4k7 Resistor
4	I	ISO_INC0_N	INC0 differential input (G2: RS-422, H2: HTL), negative polarity
5	I	ISO_INC0_P	INC0 differential input (G2: RS-422, H2: HTL), positive polarity
6	PWR	ISO_PWR	Power supply 5V… 24V for output signals
7	I	ISO_IN0	IN0 input signal
8	O	ISO_OUT1 (MISC)	Q1 output from PLC, no Pull up to ISO_PWR; can be used as additional output (by adding Pull up) or as controllable switch (max. 100mA, no capacitive or inductive load)
9	I	ISO_IN1(Trigger IN)	Default Trigger IN
10	I	ISO_INC1_N	INC1 differential input (G2: RS-422, H2: HTL), negative polarity
11	I	ISO_INC1_P	INC1 differential input (G2: RS-422, H2: HTL), positive polarity
12	PWR	ISO_GND	I/O GND 0V

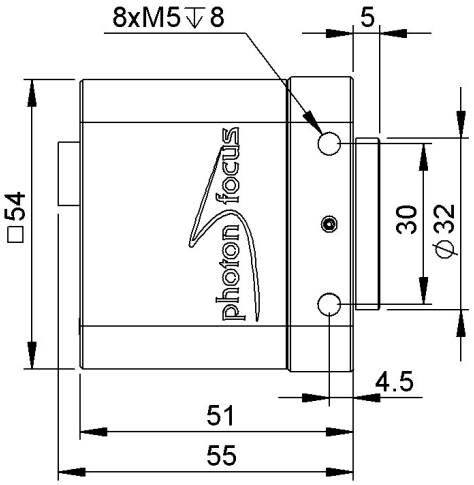


Dimensions









© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

Explanation

DN DigitalNumber (equals to LSB)

e^- Electrons

Order Information

MV1-D1280-L01-1280-G2-12	RS-422 Encoder Interface
MV1-D1280-L01-1280-H2-12	HTL Encoder Interface

Compatibility

Photonfocus AG
Bahnhofplatz 10
CH-8853 Lachen SZ
Switzerland

Phone: +41 55 451 00 00
www.photonfocus.com
info@photonfocus.com

© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.