

## MV1-D1280-L01-3D05-1280-G2

The 3D CMOS camera MV1-D1280-L01-3D05-1280-G2 was developed for laser triangulation systems with high triangulation rates

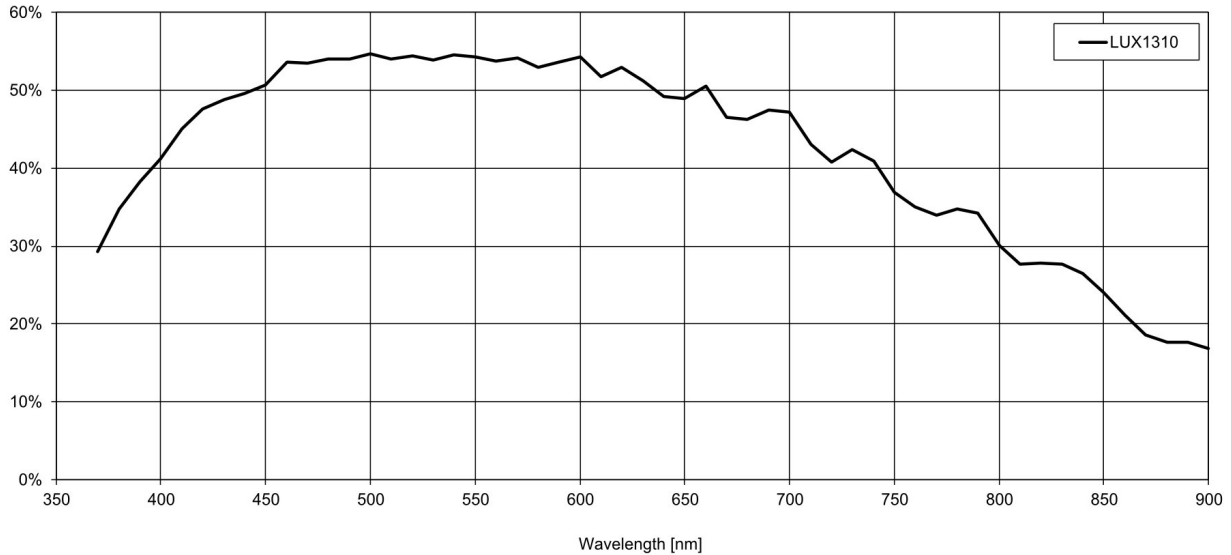
### Features

- Detection of one laser line (COG)
- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- Up to 43700fps @ 1280x16 pixels
- Global shutter
- Extended sensor and camera features
- A/B shaft encoder interface
- GigEVision interface
- Free GUI available (PF 3D Suite)



**GigE**<sup>®</sup>  
VISION  
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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

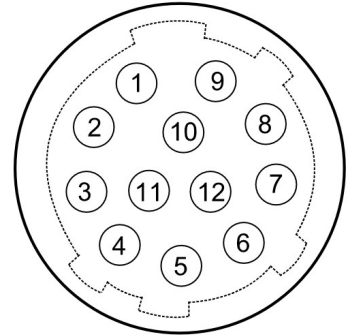
Manufacturer / Type	LUXIMA / LUX1310
Technology	CMOS
Optical format	2/3"
Optical diagonal	10.82mm
Resolution	1280 x 1024
Pixel size	6.6µm x 6.6µm
Active optical area	8.45mm x 6.76mm
Dark current	41100e <sup>-</sup> /s
Read out noise	25e <sup>-</sup>
Full well capacity / SNR	17ke <sup>-</sup> / 130: 1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

## Camera Specifications

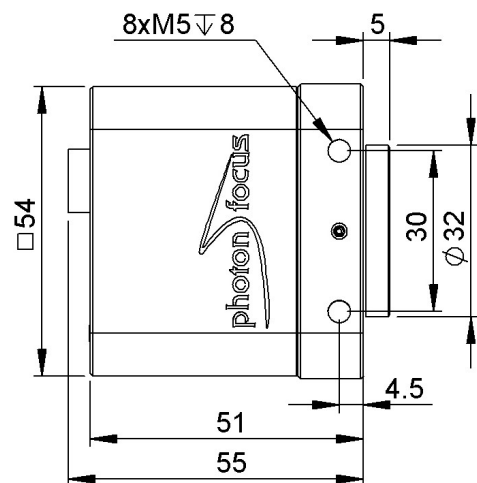
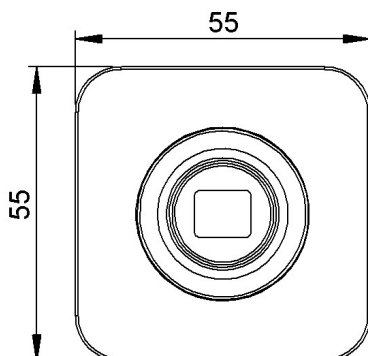
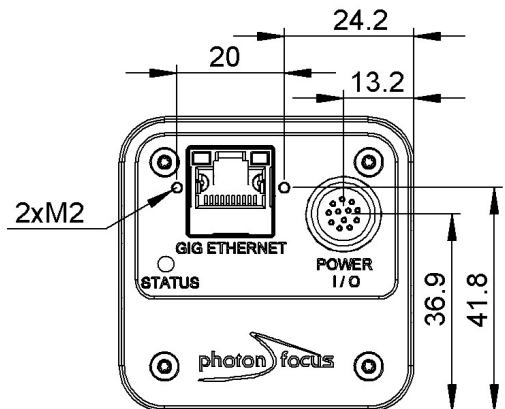
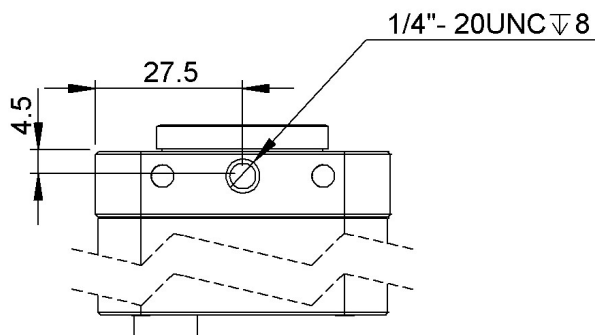
Interface	GigE
Frame rate	43700fps
Pixel clock	80MHz
Camera taps	1
Greyscale resolution	8Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, AB-Trigger
Features	Detection of one laser line (COG), Linear Mode / multiple slope (High Dynamic Range), Configurable region of interest (ROI), Temperature monitoring of camera, Ultra 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)), Free GUI available (PF 3D Suite) for an easy system set up and visualisation of 3D scans
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 51mm <sup>3</sup>
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

## 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



## Explanation

DN	DigitalNumber (equals to LSB)
e <sup>-</sup>	Electrons

## Order Information

MV1-D1280-L01-3D05-1280-G2-8	RS-422 Encoder Interface
MV1-D1280-L01-3D05-1280-H2-8	HTL Encoder Interface

## Compatibility



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