# MV4-D1280-L01-3D06-FB

The 3D CMOS cameras MV4-D1280-L01-3D06-FB (LUX1310) are designed for high triangulation rates. The LUXIMA CMOS image sensor LUX1310, which is optimized for high frame rates and high sensitivity, was combined with two robust algorithms to determine the triangulation line in the FPGA of the camera.

## Features

- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- 65600fps
- Global shutter
- Extended sensor and camera features
- 4x Isolated inputs or shaft encoder
- 3x Isolated outputs
- GigEVision interface
- PoE (Power Over Ethernet)

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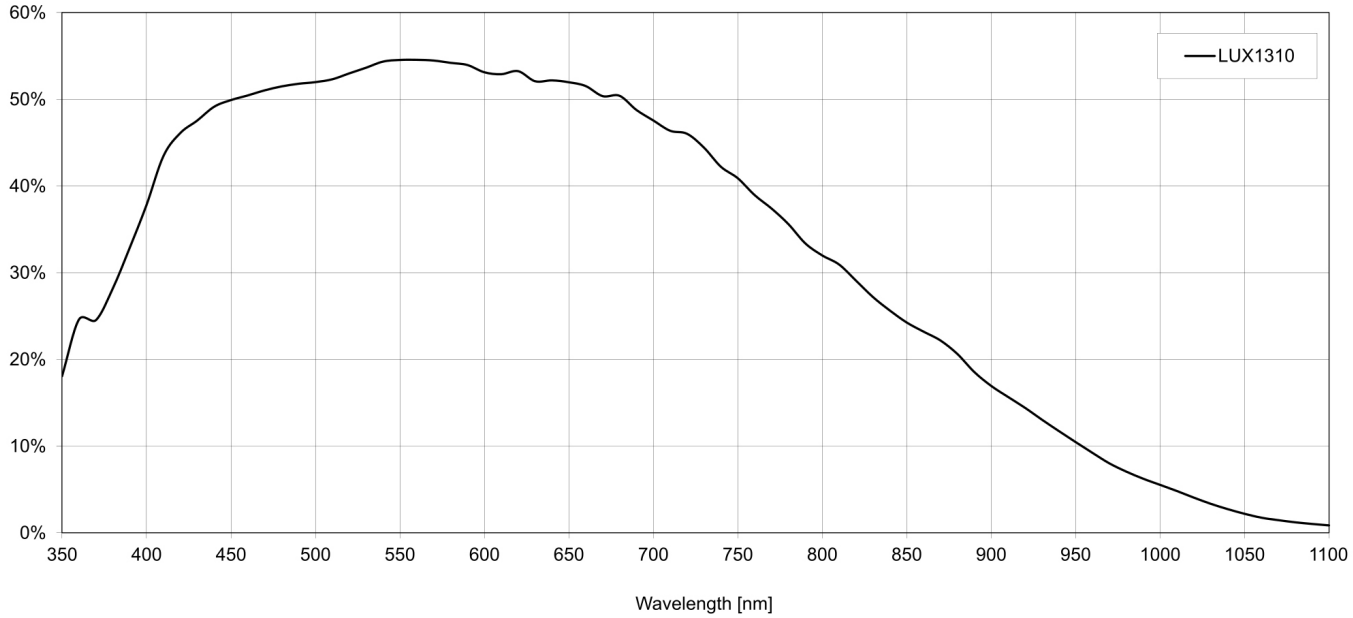
## Quantum Efficiency Image Sensor




## 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-/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 |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## Camera Specifications

| | |
|---|---|
| Interface | 10GigE |
| Frame rate | 65600fps |
| Pixel clock | n/a |
| Camera taps | n/a |
| Greyscale resolution | 8 Bit |
| Fixed pattern noise (FPN) | < 1DN RMS @ 8Bit |
| Exposure time range | 10µs - 186ms |
| Analog gain | no |
| Digital gain | 0.1 to 15.99 (FineGain) |
| Trigger Modes | Free running (non triggered), external Trigger, SWTrigger, Encoder |
| Features | Linear Mode / multiple slope (High Dynamic Range Mode), 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, 4x Isolated inputs or shaft encoder A, B, Z, Y interface (RS422, TTL, D-HTL, HTL), 3x Isolated outputs (2x open drain, 1x TTL highspeed) |
| Operation temperature / moisture | 0°C ... 50°C / 20 ... 80 % |
| Storage temperature / moisture | -25°C ... 60°C / 20 ... 95 % |
| Power supply | +12VDC (-10%) ... +24VDC (+10%) |
| Power consumption | <13W |
| Lens mount | C-Mount |
| I/O Inputs | 4x Isolated inputs or shaft encoder A, B, Z, Y interface (RS422, TTL, D-HTL, HTL) |
| I/O Outputs | 3x Isolated outputs (2x open drain, 1x TTL highspeed) |
| Dimensions | 59 x 59 x 101.8 mm3 |
| Mass | 495g |
| Connector I/O (Power) | 17-pol. M12 |
| Connector Interface | X-coded M12 |
| Conformity | CE / RoHS / WEEE |
| IP Code | IP40 |


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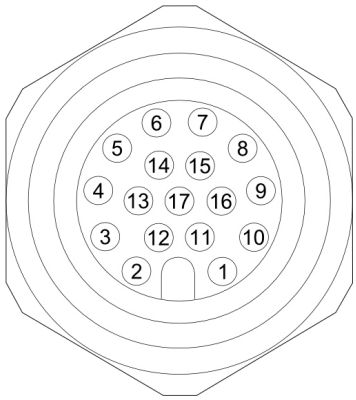
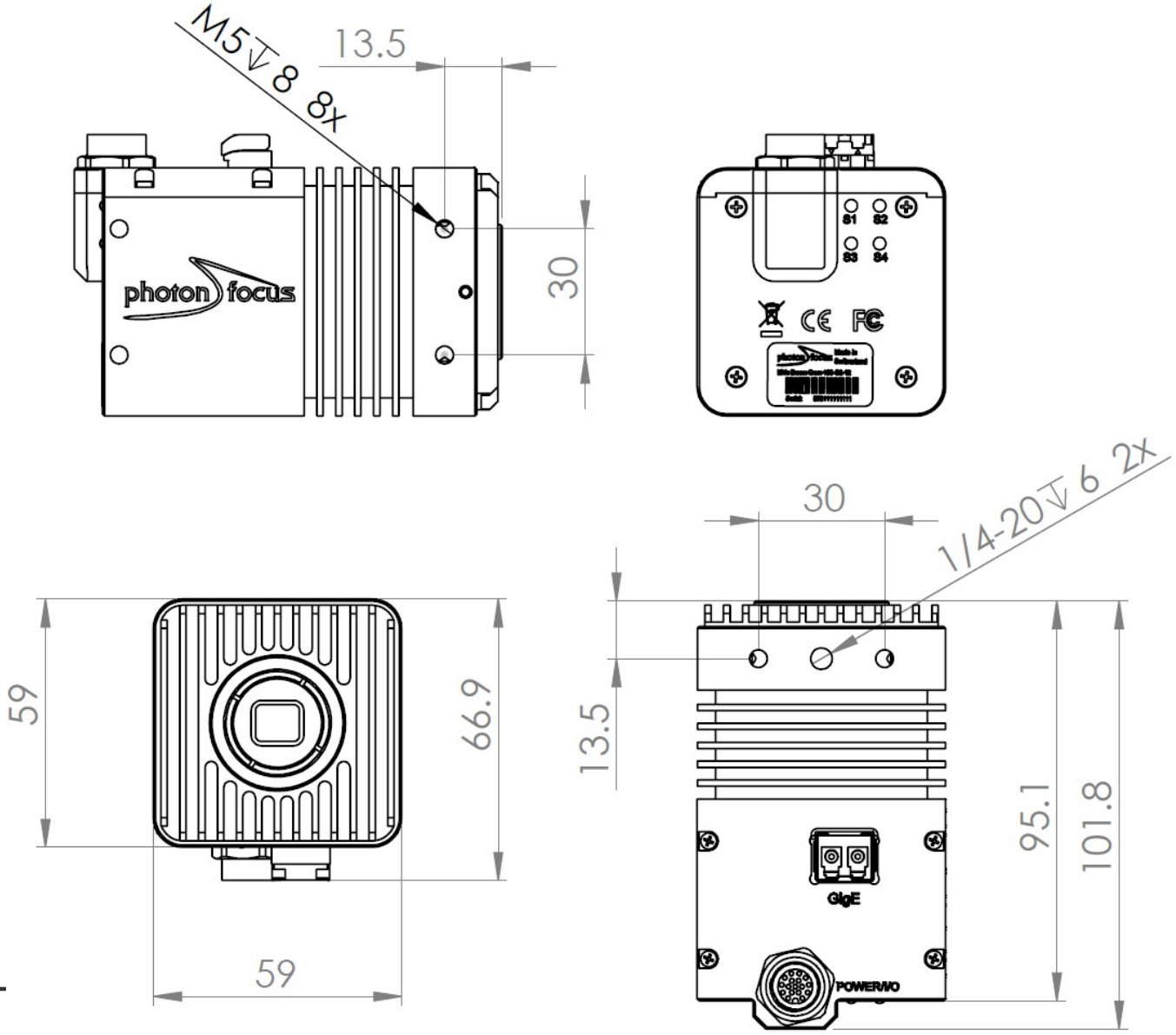
## Connectors

| Pin | I/O Type | Name | Description |
|---|---|---|---|
| 1 | PWR | CAMERA_GND | Camera GND, 0V |
| 2 | PWR | CAMERA_PWR | Camera Power |
| 3 | I | ISO_INC0_P / ISO_IN0 | Isolated RS422/HTL positive differential or Isolated TTL/HTL single ended input |
| 4 | I | ISO_INC0_N / ISO_GND | Isolated RS422/HTL negativ differential input or ground |
| 5 | I | ISO_INC1_P / ISO_IN1 | Isolated RS422/HTL positive differential or Isolated TTL/HTL single ended input |
| 6 | I | ISO_INC1_N / ISO_GND | Isolated RS422/HTL negativ differential input or ground |
| 7 | I | ISO_INC2_P / ISO_IN2 | Isolated RS422/HTL positive differential or Isolated TTL/HTL single ended input |
| 8 | I | ISO_INC2_N / ISO_GND | Isolated RS422/HTL negativ differential input or ground |
| 9 | I | ISO_IN3 | Isolated TTL input |
| 10 | O | ISO_OUT2 | Isolated TTL output |
| 11 | PWR | CAMERA_GND | Camera GND, 0V |
| 12 | PWR | CAMERA_PWR | Camera Power |
| 13 | O | ISO_OUT0 | Isolated open drain output |
| 14 | O | ISO_OUT1 | Isolated open drain output |
| 15 | IO | RS485_DATA_P | RS485 interface data positive polarity |
| 16 | IO | RS485_DATA_N | RS485 interface data negative polarity |
| 17 | PWR | ISO_GND | Isolated I/O GND |




## Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

$e^-$ Electrons

## Order Information

| | |
|---|---|
| MV4-D1280-L01-3D06-FB | BW model |

## Compatibility

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