MV4-D1952-L01-GT

The CMOS camera series MV4 was developed for demanding applications in machine vision, motion analysis and optical metrology. The used LUXIMA CMOS image sensor LUX2100 is optimized for very high frame rates and high sensitivity. The camera is equipped with a wide range of features to reduce the amount of data to be transmitted.

Features

- LUXIMA LUX2100 CMOS image sensor
- 1952 x 1080 pixel resolution
- 581fps
- Global shutter
- 1 GByte internal memory
- Extended sensor and camera features
- 4x Isolated inputs or shaft encoder
- 3x Isolated outputs
- GigEVision interface
- PoE (Power Over Ethernet)

Quantum Efficiency Image Sensor

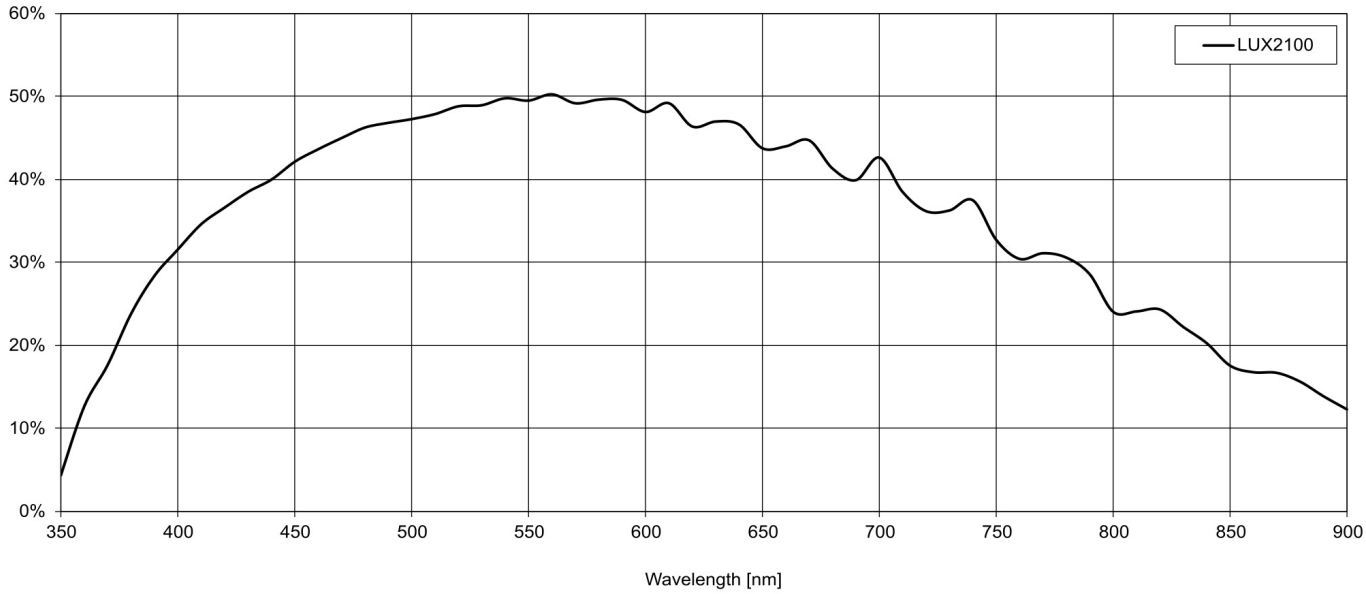


Image Sensor Specifications

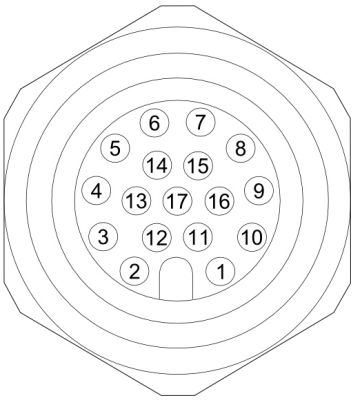
Manufacturer / Type	LUXIMA, LUX2100
Technology	CMOS
Optical format	4/3"
Optical diagonal	22.3mm
Resolution	1952 x 1080
Pixel size	10µm x 10µm
Active optical area	19.52mm x 10.8mm
Dark current	n/a
Read out noise	17e-
Full well capacity / SNR	21.2ke- / 145:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity)
Responsivity	Monochrome: 994 x 10^3 DN / (J/m^2) @ 560nm / 8bit
Quantum Efficiency	Monochrome: < 54%
Optical fill factor	n/a
Dynamic range	62 dB
Characteristic curve	Linear
Shutter mode	Global shutter

Camera Specifications

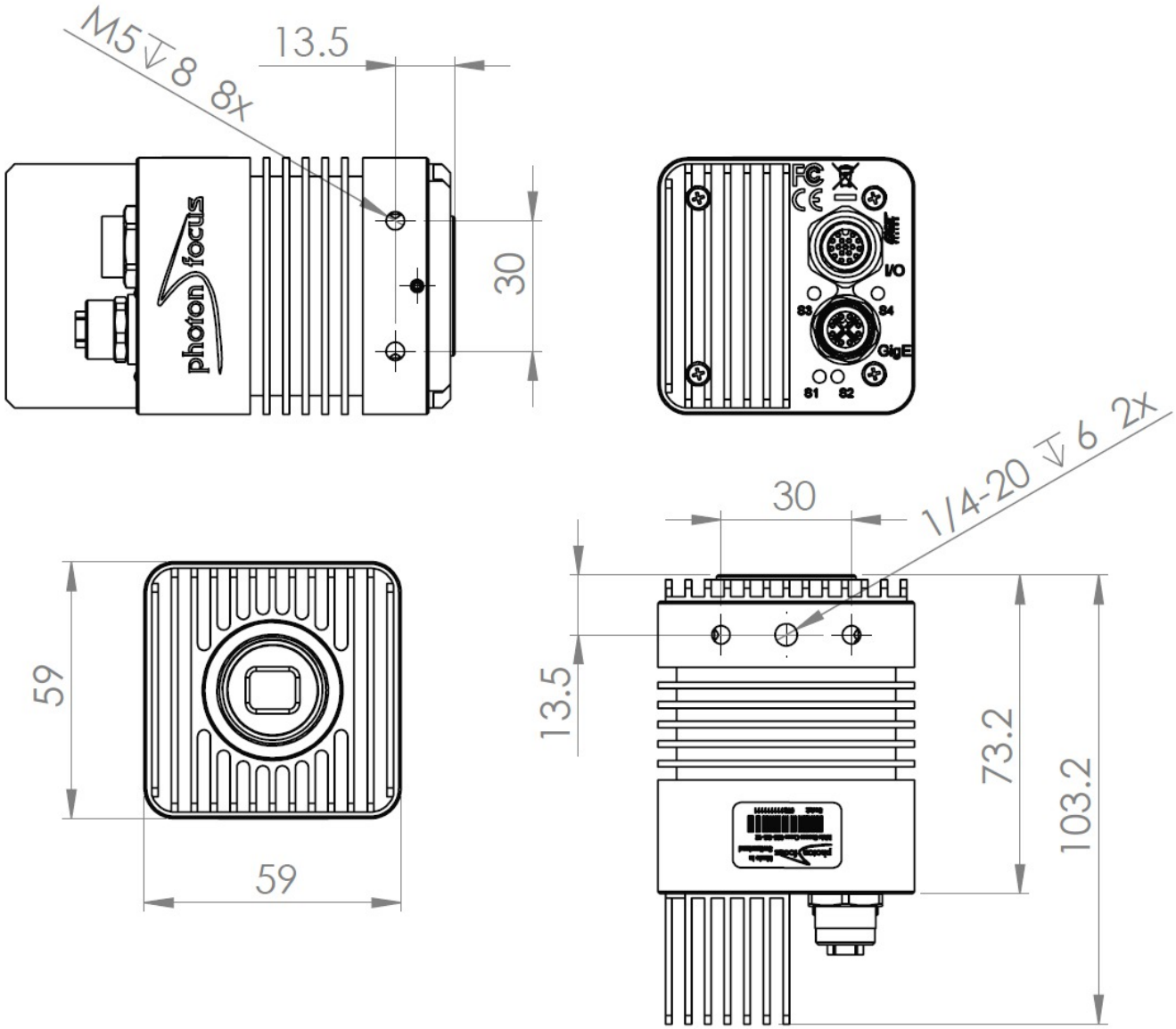
Interface	10GigE
Frame rate	581fps
Pixel clock	n/a
Camera taps	n/a
Greyscale resolution	8, 10 and 12 Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 223ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, Encoder
Features	Resolution 1952 x 1080 (LUX2100) pixels, Optimized for low light conditions, Spectral range: monochrome standard: 350 - 950 nm, Global shutter high-speed CMOS image sensor, Gigabit and 10-Gigabit Ethernet interfaces, GigE Vision and GenICam compliant, Frame rates MV4-D1952-L01 camera series at maximal resolution 53 fps (GigE) and 581fps (10GigE), I/O capabilities: 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), Up to 8 regions of interest (MROI), 2 look-up tables (12-to-8 bit) on user-defined image region (Region-LUT)
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	< 15.8W
Lens mount	M42
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 103.2 mm3
Mass	465g
Connector I/O (Power)	17-pol. M12
Connector Interface	X-coded M12
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
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-D1952-L01-GT	10GigE

Compatibility

Photonfocus AG
Bahnhofplatz 10
CH-8853 Lachen SZ
Switzerland

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www.photonfocus.com
info@photonfocus.com

MV4-D1280-L01-GT

The MV4 CMOS camera series was developed for advanced machine vision applications, motion analysis and demanding applications of optical metrology. The LUXIMA LUX1310 CMOS image sensor is optimized for high speed applications and is combined in this camera with an advanced feature set to reduce the amount of data to be transferred.

Features

- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- 934fps
- Global shutter
- 1 GByte internal memory
- Extended sensor and camera features
- 4x Isolated inputs or shaft encoder
- 3x Isolated outputs
- GigEVision interface
- PoE (Power Over Ethernet)

Quantum Efficiency Image Sensor

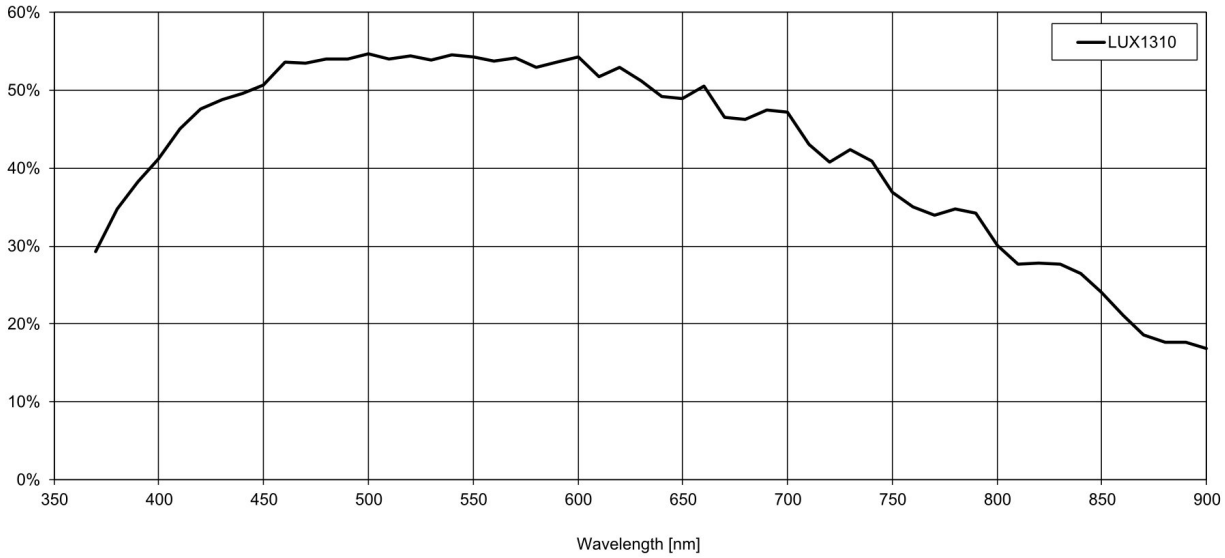


Image Sensor Specifications

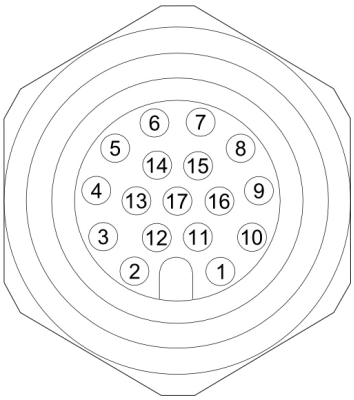
Manufacturer / Type	LUXIMA, LUX1310
Technology	CMOS
Optical format	2/3"
Optical diagonal	10.82mm
Resolution	1280 x 1024
Pixel size	6.6µm x 6.6µm
Active optical area	8.45mm x 6.76mm
Dark current	41100e-/s
Read out noise	25e-
Full well capacity / SNR	15ke- / 122:1
Spectral range	Monochrome: 350 to 950nm (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

Camera Specifications

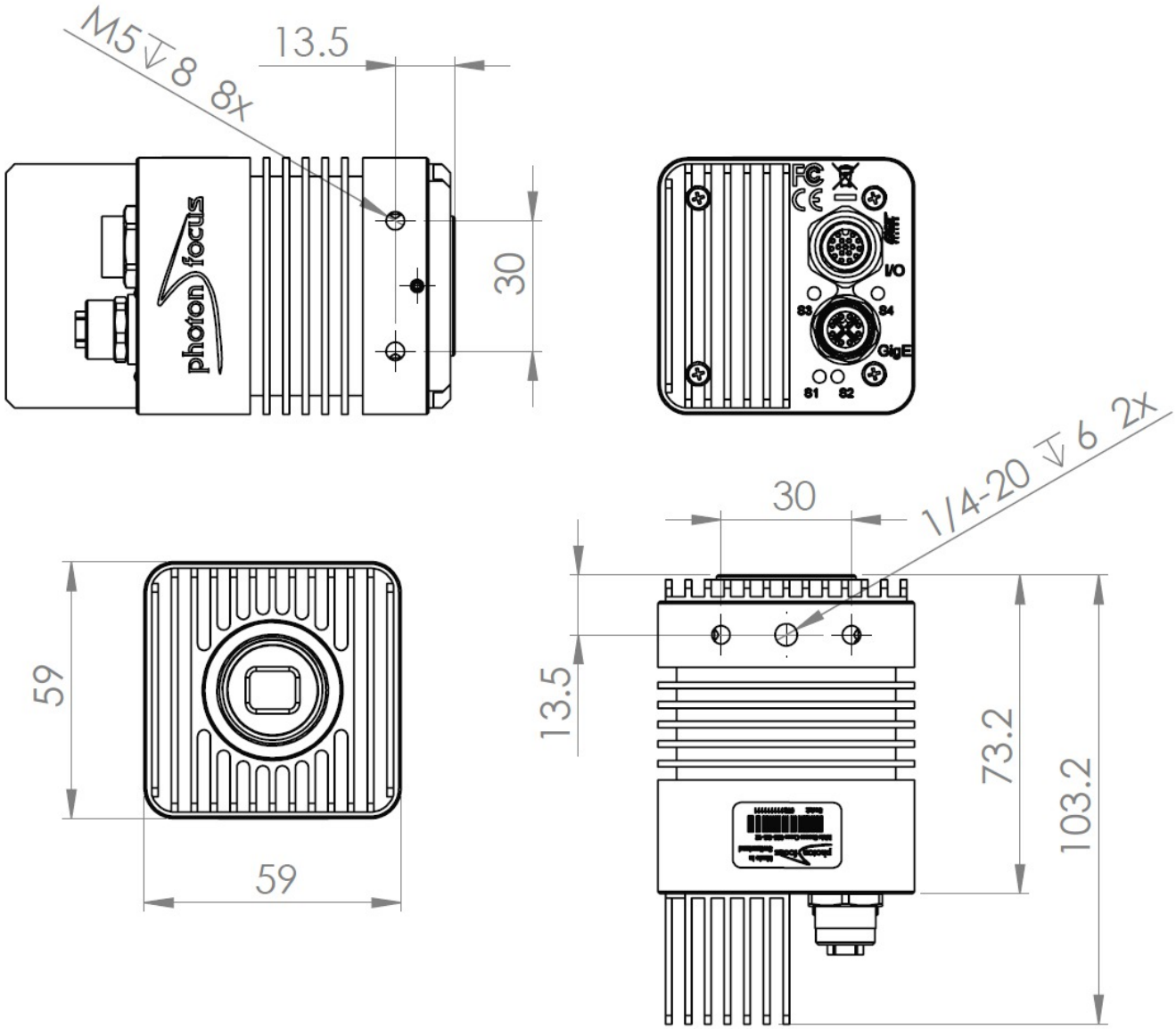
Interface	10GigE
Frame rate	934fps
Pixel clock	n/a
Camera taps	n/a
Greyscale resolution	8, 10 and 12 Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 186ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, Encoder
Features	Linear Mode / multiple slope (High Dynamic Range Mode), Configurable region of interest (ROI), up to 8 MROI, 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	< 15.8W
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 103.2 mm3
Mass	465g
Connector I/O (Power)	17-pol. M12
Connector Interface	X-coded M12
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
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-GT	10GigE

Compatibility

Photonfocus AG
Bahnhofplatz 10
CH-8853 Lachen SZ
Switzerland

Phone: +41 55 451 00 00
www.photonfocus.com
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MV4-D1280-L01-G2

The MV4 CMOS camera series was developed for advanced machine vision applications, motion analysis and demanding applications of optical metrology. The LUXIMA LUX1310 CMOS image sensor is optimized for high speed applications and is combined in this camera with an advanced feature set to reduce the amount of to be transferred.

Features

- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- 85fps
- Global shutter
- 1 GByte internal memory
- Extended sensor and camera features
- 4x Isolated inputs or shaft encoder
- 3x Isolated outputs
- GigEVision interface
- PoE (Power Over Ethernet)

Quantum Efficiency Image Sensor

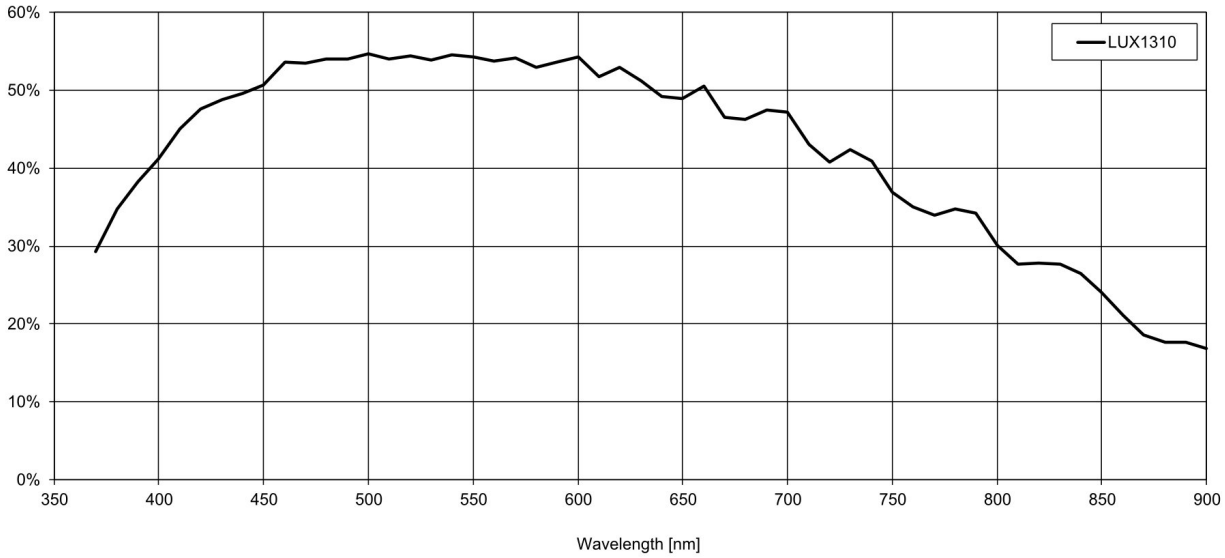


Image Sensor Specifications

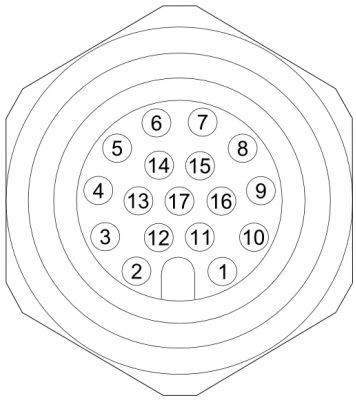
Manufacturer / Type	LUXIMA, LUX1310
Technology	CMOS
Optical format	2/3"
Optical diagonal	10.82mm
Resolution	1280 x 1024
Pixel size	6.6µm x 6.6µm
Active optical area	8.45mm x 6.76mm
Dark current	41100e-/s
Read out noise	25e-
Full well capacity / SNR	15ke- / 122:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity)
Responsivity	Monochrome: 994 x 10^3 DN / (J/m²) @ 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

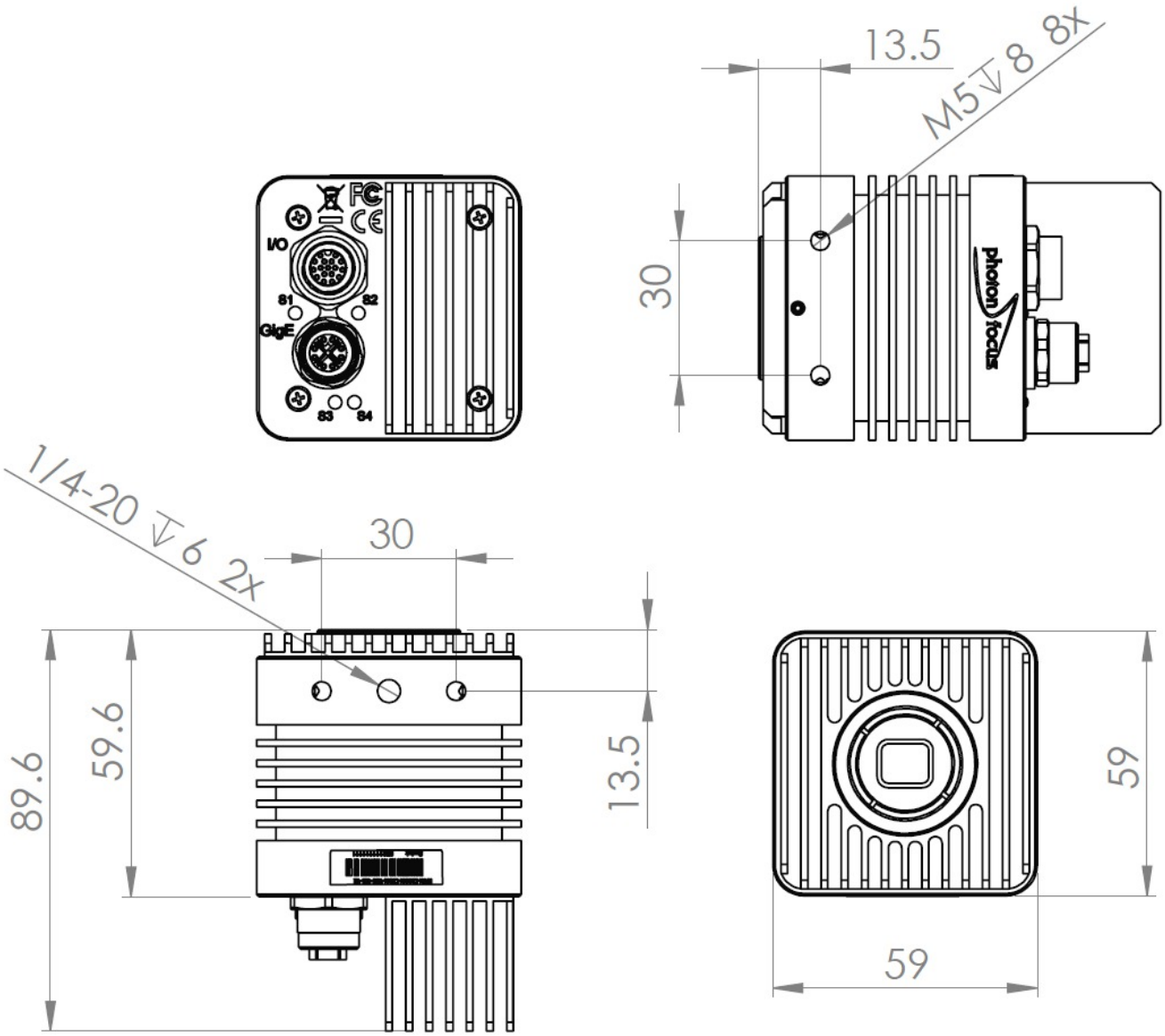
Interface	GigE
Frame rate	85fps
Pixel clock	n/a
Camera taps	n/a
Greyscale resolution	8, 10 and 12 Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 186ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, Encoder
Features	Linear Mode / multiple slope (High Dynamic Range Mode), Configurable region of interest (ROI), up to 8 MROI, 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	< 8.6W
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 89.6 mm³
Mass	392g
Connector I/O (Power)	17-pol. M12
Connector Interface	X-coded M12
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
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-G2	GigE

Compatibility

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MV4-D1280-L01-FB

The MV4 CMOS camera series was developed for advanced machine vision applications, motion analysis and demanding applications of optical metrology. The LUXIMA LUX1310 CMOS image sensor is optimized for high speed applications and is combined in this camera with an advanced feature set to reduce the amount to be transferred.

Features

- LUXIMA LUX1310 CMOS image sensor
- 1280 x 1024 pixel resolution
- 934fps
- Global shutter
- 1 GByte internal memory
- Extended sensor and camera features
- 4x Isolated inputs or shaft encoder
- 3x Isolated outputs
- GigEVision interface

Quantum Efficiency Image Sensor

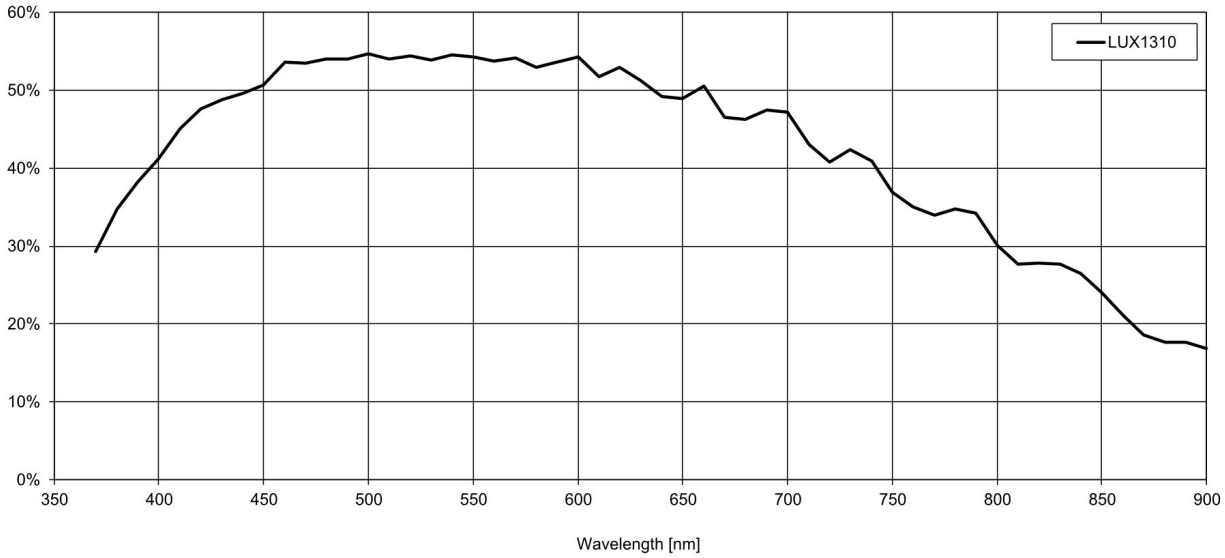


Image Sensor Specifications

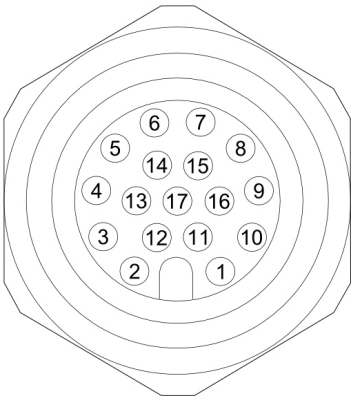
Manufacturer / Type	LUXIMA, LUX1310
Technology	CMOS
Optical format	2/3"
Optical diagonal	10.82mm
Resolution	1280 x 1024
Pixel size	6.6µm x 6.6µm
Active optical area	8.45mm x 6.76mm
Dark current	41100e-/s
Read out noise	25e-
Full well capacity / SNR	15ke- / 122:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity)
Responsivity	Monochrome: 994 x 10^3 DN / (J/m²) @ 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

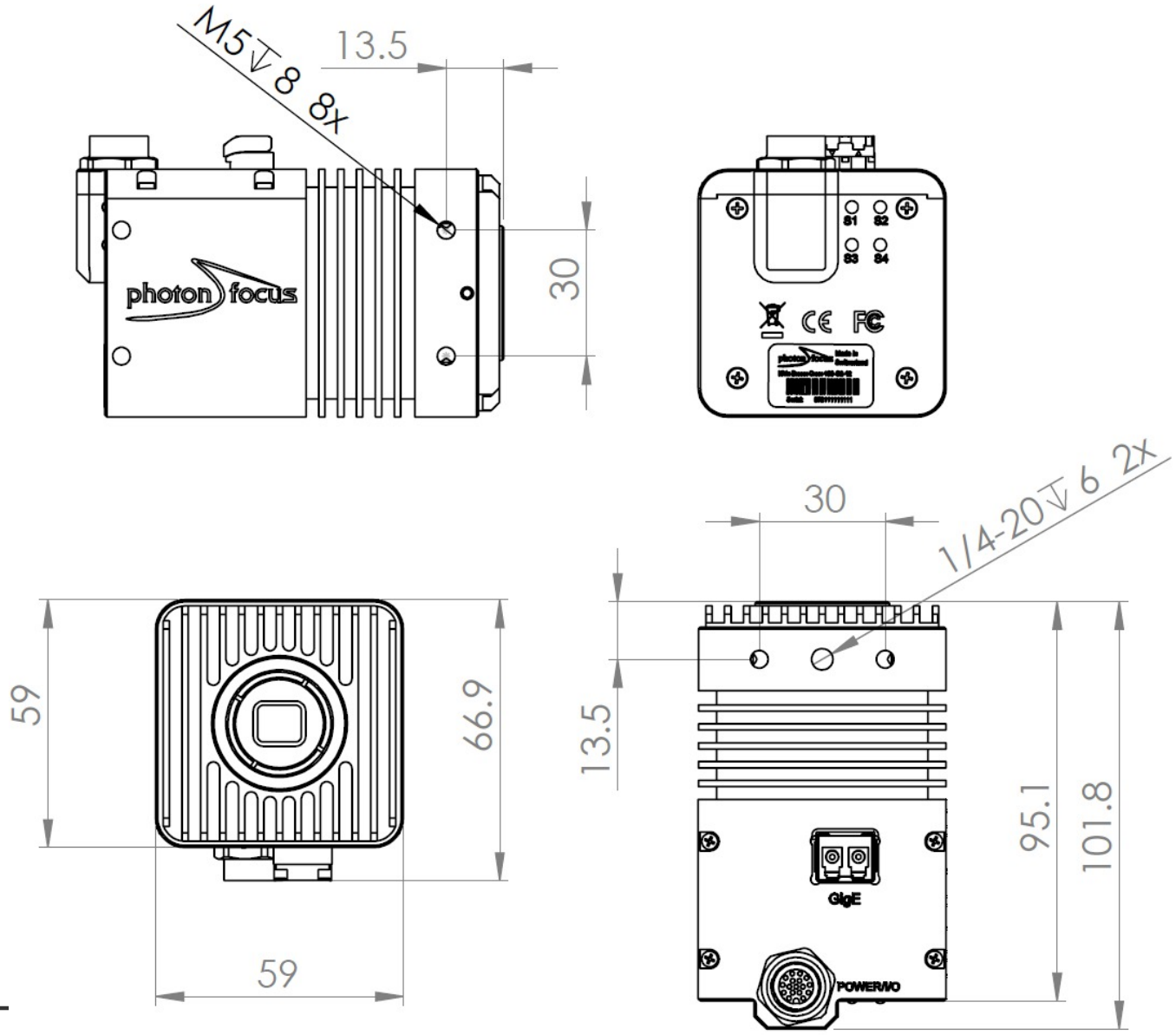
Interface	10GigE Fibre
Frame rate	934fps
Pixel clock	n/a
Camera taps	n/a
Greyscale resolution	8, 10 and 12 Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 186ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, Encoder
Features	Linear Mode / multiple slope (High Dynamic Range Mode), Configurable region of interest (ROI), up to 8 MROI, 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	< 11.9W
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	LC connector for multimode fibre (through included SFP+ cage)
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
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-FB	10GigE Fibre

Compatibility

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