

# MV0-D2592-O01-144-G2

The camera series MV0-D2592(I/C)-O01-G2 is based on the ON Semiconductor PYTHON5000 CMOS image sensor

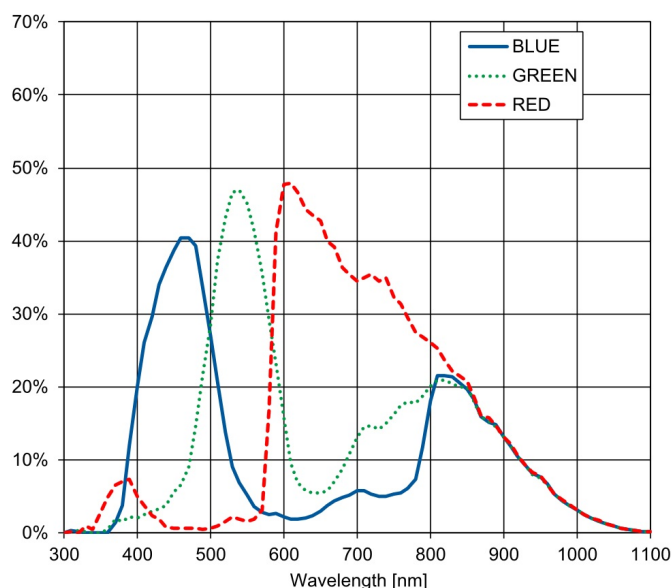
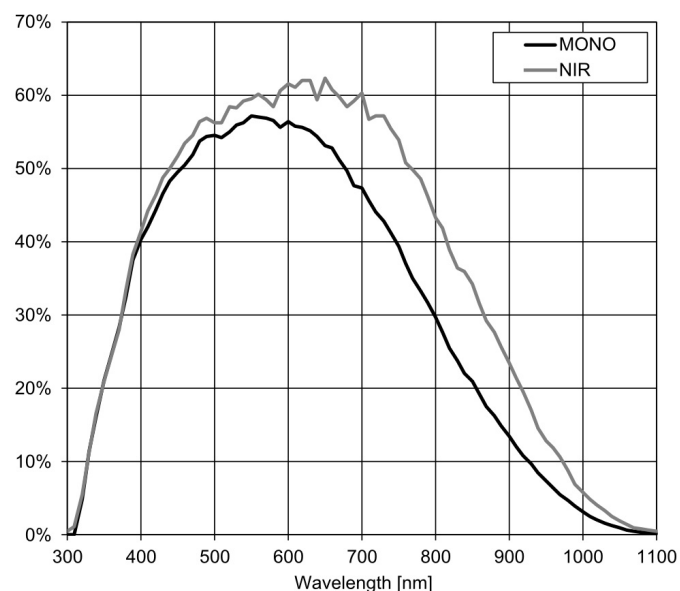
## Features

- ON Semiconductor PYTHON5000 CMOS image sensor
- 2592 x 2048 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 21fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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



## Image Sensor Specifications

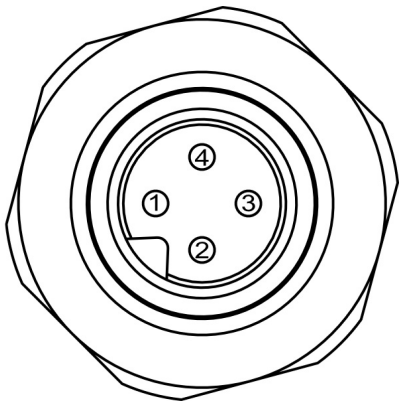
Manufacturer / Type	ON Semiconductor, PYTHON5000
Technology	CMOS
Optical format	1"
Optical diagonal	15.86mm
Resolution	2592 x 2048
Pixel size	4.8µm x 4.8µm
Active optical area	12.44mm x 9.83mm
Dark current	9.3e-/s
Read out noise	10e-
Full well capacity / SNR	10ke- / 100:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) NIR: 330 to 970nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit NIR: $854 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 850nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% NIR: < 60% Color: < 45%
Optical fill factor	n/a
Dynamic range	60dB
Characteristic curve	Linear
Shutter mode	Global shutter

## Camera Specifications

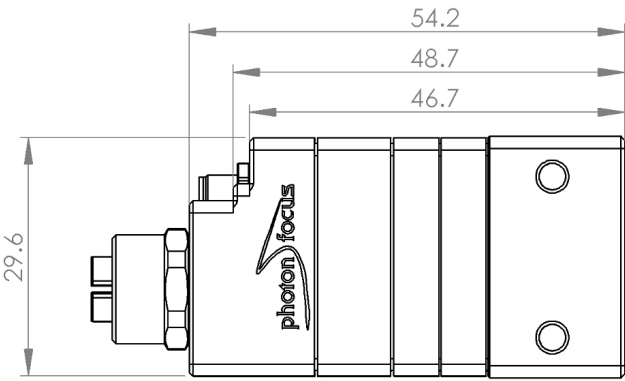
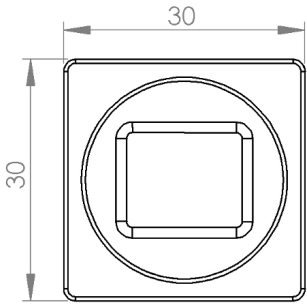
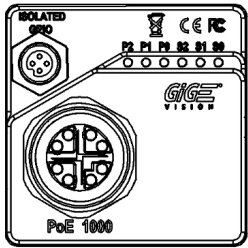
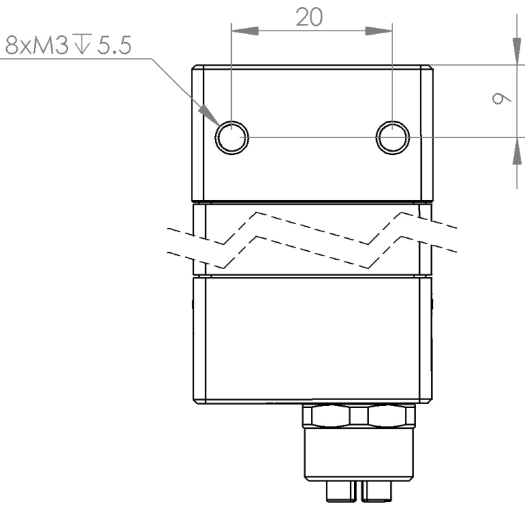
Interface	GigE
Frame rate	21fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions





## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D2592-O01-144-G2	BW model
MV0-D2592I-O01-144-G2	NIR model

## Compatibility



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# MV0-D2448P-S01-240-G2

The camera series MV0-D2448P-S01-240-G2 is based on the SONY IMX250 CMOS image sensor

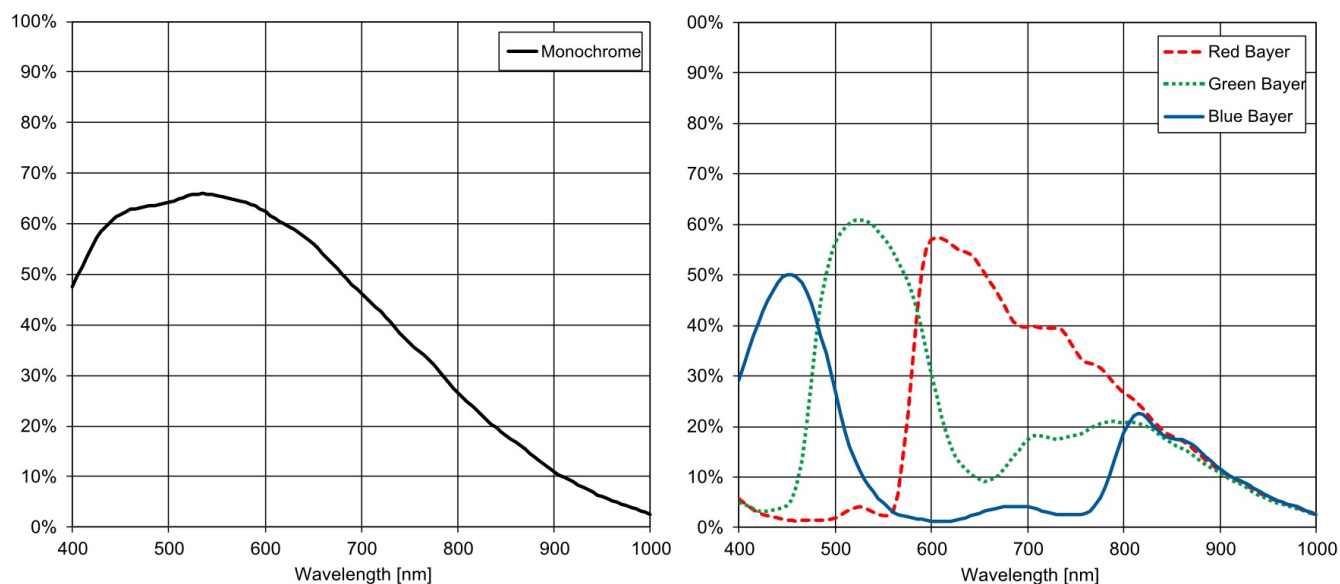
## Features

- SONY IMX250 CMOS image sensor
- 2448 x 2048 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 22fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

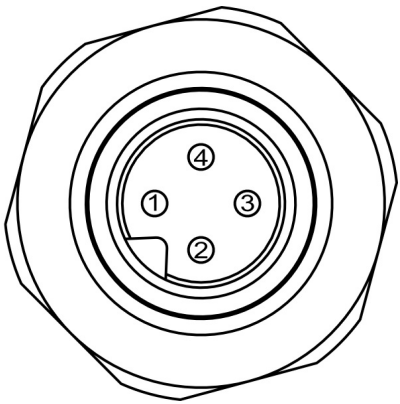
Manufacturer / Type	Sony, IMX250MZR
Technology	CMOS
Optical format	2/3"
Optical diagonal	11.01mm
Resolution	2448 x 2048
Pixel size	3.45µm x 3.45µm
Active optical area	8.45mm x 7.07mm
Dark current	9.3e-/s
Read out noise	3e-
Full well capacity / SNR	10.5ke- / 102:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J/m}^2)$ @ 540nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J/m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% Color: < 45%
Optical fill factor	n/a
Dynamic range	71dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

## Camera Specifications

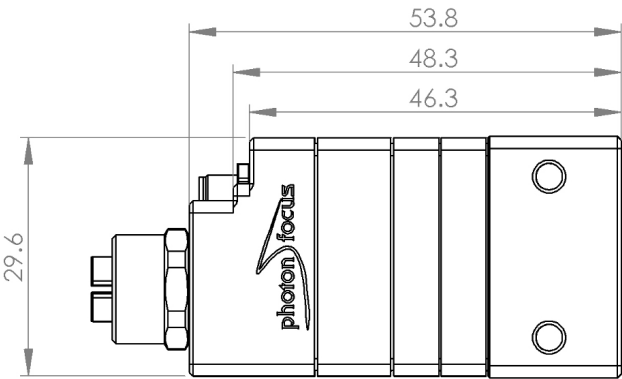
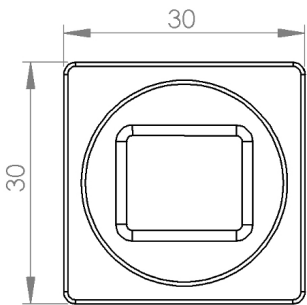
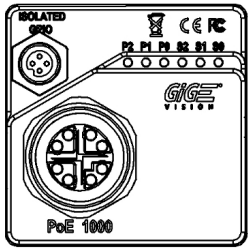
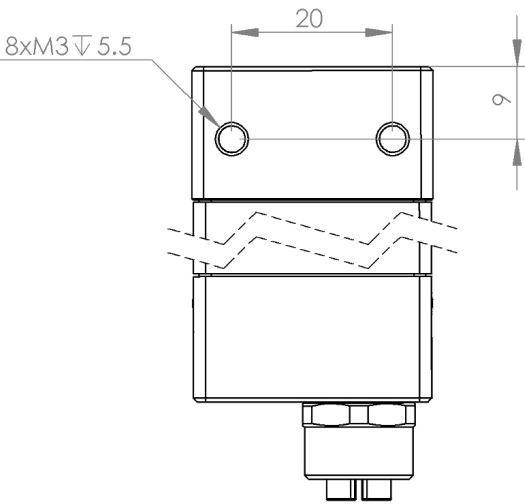
Interface	GigE
Frame rate	22fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D2448P-S01-240-G2

BW model

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## Compatibility



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# MV0-D2448-S01-240-G2

The camera series MV0-D2448(C)-S01-G2 is based on the SONY IMX250 CMOS image sensor

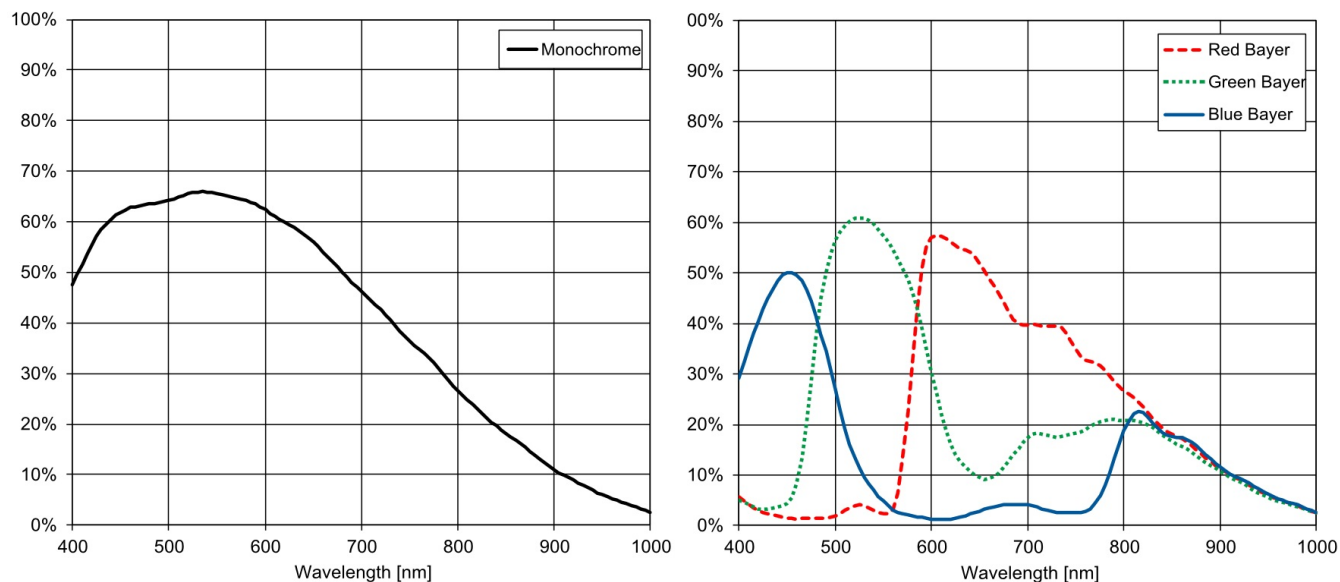
## Features

- SONY IMX250 CMOS image sensor
- 2448 x 2048 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 22fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

Manufacturer / Type	Sony, IMX250
Technology	CMOS
Optical format	2/3"
Optical diagonal	11.01mm
Resolution	2448 x 2048
Pixel size	3.45µm x 3.45µm
Active optical area	8.45mm x 7.07mm
Dark current	9.3e-/s
Read out noise	3e-
Full well capacity / SNR	10.5ke- / 102:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% Color: < 45%
Optical fill factor	n/a
Dynamic range	71dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

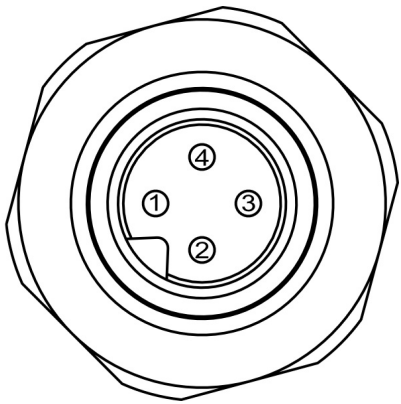


## Camera Specifications

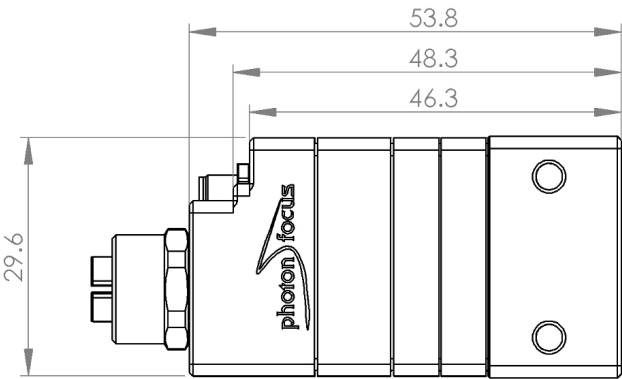
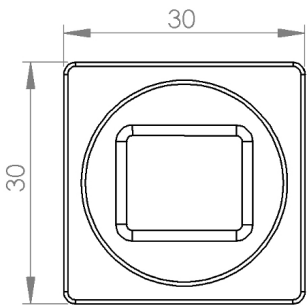
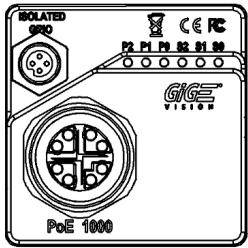
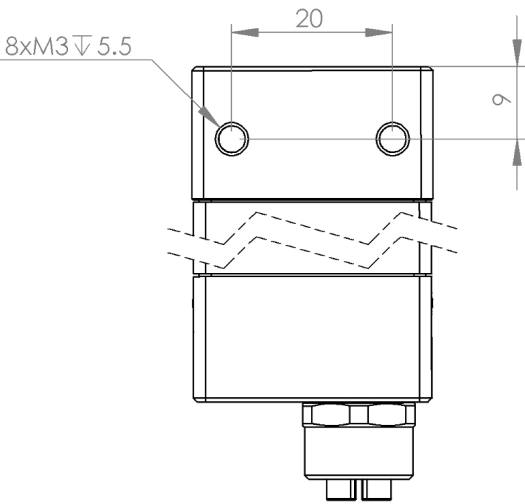
Interface	GigE
Frame rate	22fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D2448-S01-240-G2

BW model

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## Compatibility



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# MV0-D2048x1088-C01-160-G2

The camera series MV0-D2048x1088(I/C)-C01-G2 is based on the CMOSIS CMV2000 V3 CMOS image sensor

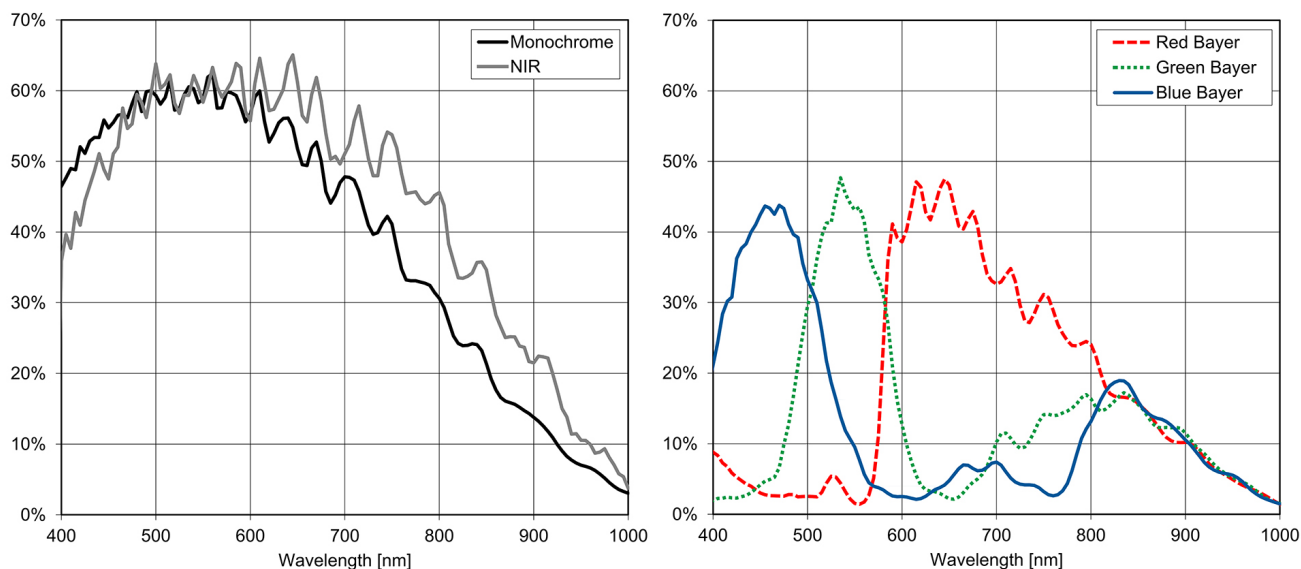
## Features

- CMOSIS CMV2000 V3 image sensor
- 2048 x 1088 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 21fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

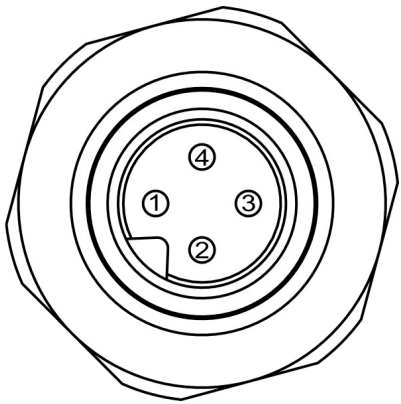
Manufacturer / Type	CMOSIS, CMV2000
Technology	CMOS
Optical format	2/3"
Optical diagonal	12.75mm
Resolution	2048 x 1088
Pixel size	5.5μm x 5.5μm
Active optical area	11.26mm x 5.98mm
Dark current	125e-/s
Read out noise	13e-
Full well capacity / SNR	11ke- / 105:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) NIR: 330 to 970nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J/m}^2) @ 540\text{nm} / 8\text{bit}$ NIR: $854 \times 10^3 \text{ DN} / (\text{J/m}^2) @ 850\text{nm} / 8\text{bit}$ Color: $734 \times 10^3 \text{ DN} / (\text{J/m}^2) @ 540\text{nm} / 8\text{bit}$
Quantum Efficiency	Monochrome: < 57% NIR: < 60% Color: < 45%
Optical fill factor	42% without micro lenses
Dynamic range	60dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

## Camera Specifications

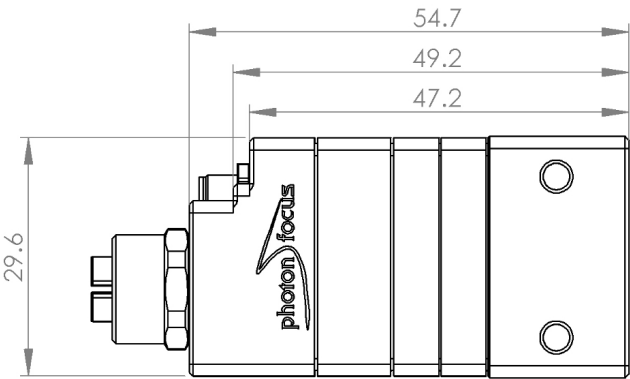
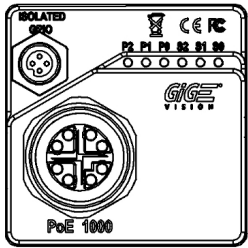
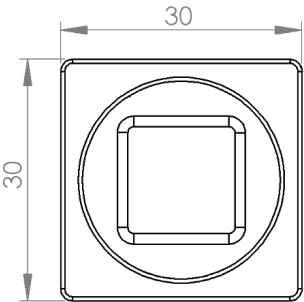
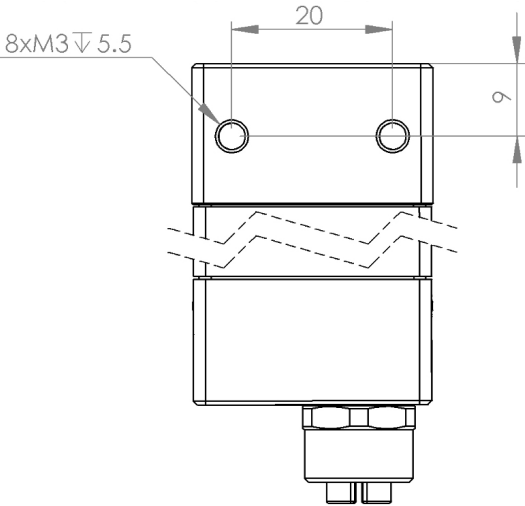
Interface	GigE
Frame rate	50fps
Pixel clock	80MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D2048x1088-C01-160-G2	BW model
MV0-D2048x1088I-C01-160-G2	NIR model

## Compatibility



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# MV0-D2048-C01-160-G2

The camera series MV0-D2048(I/C)-C01-G2 is based on the CMOSIS CMV4000 V3 CMOS image sensor

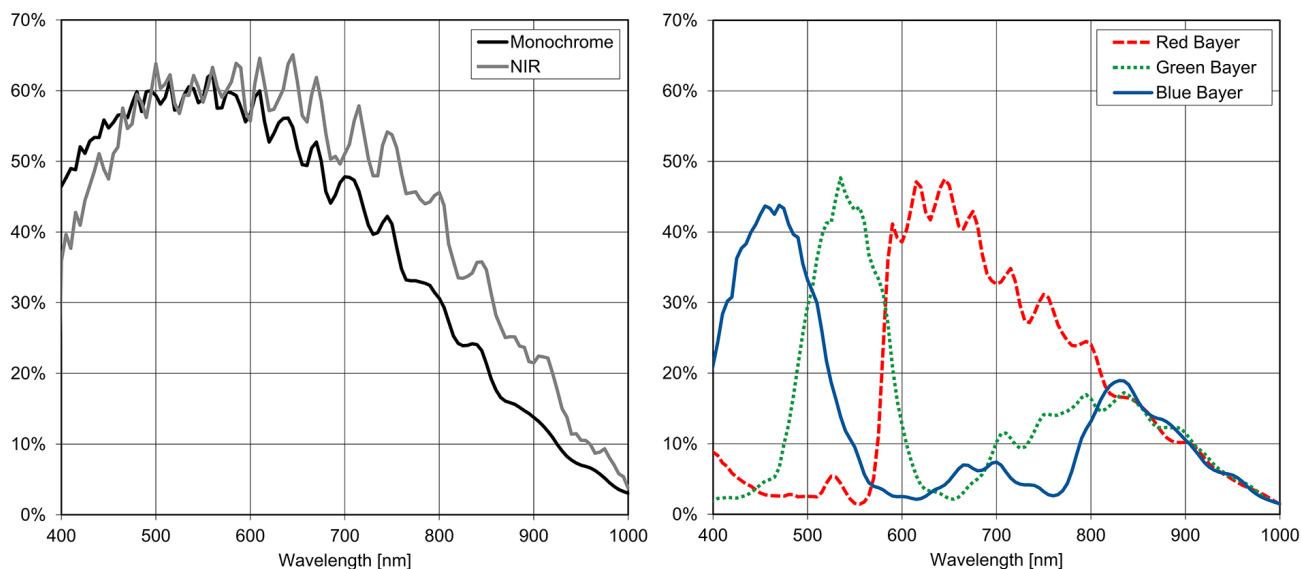
## Features

- CMOSIS CMV4000 V3 image sensor
- 2048 x 2048 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 21fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

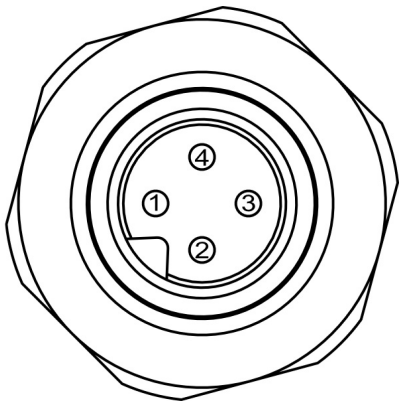
Manufacturer / Type	CMOSIS, CMV4000
Technology	CMOS
Optical format	1"
Optical diagonal	15.92mm
Resolution	2048 x 2048
Pixel size	5.5µm x 5.5µm
Active optical area	11.26mm x 11.26mm
Dark current	125e-/s
Read out noise	13e-
Full well capacity / SNR	11ke- / 105:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) NIR: 330 to 970nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J/m}^2)$ @ 540nm / 8bit NIR: $854 \times 10^3 \text{ DN} / (\text{J/m}^2)$ @ 850nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J/m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% NIR: < 60% Color: < 45%
Optical fill factor	42% without micro lenses
Dynamic range	60dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

## Camera Specifications

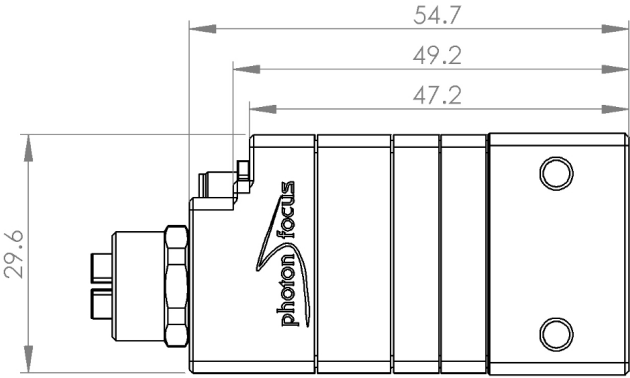
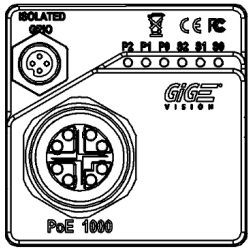
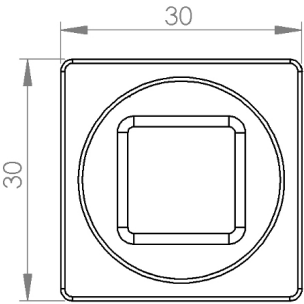
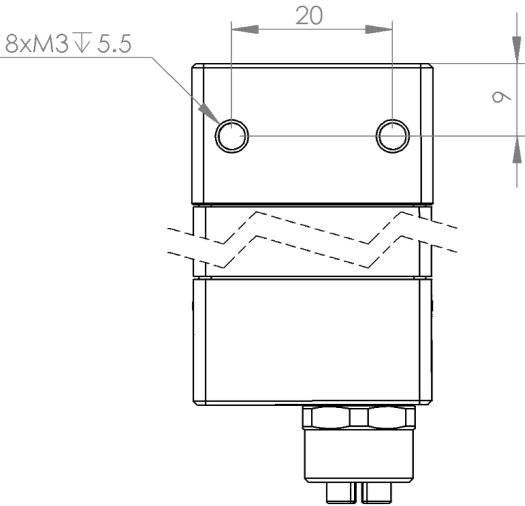
Interface	GigE
Frame rate	26fps
Pixel clock	80MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D2048-C01-160-G2	BW model
MV0-D2048I-C01-160-G2	NIR model

## Compatibility



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# MV0-D1984-O01-144-G2

The camera series MV0-D1984(I/C)-O01-G2 is based on the ON Semiconductor PYTHON2000 CMOS image sensor

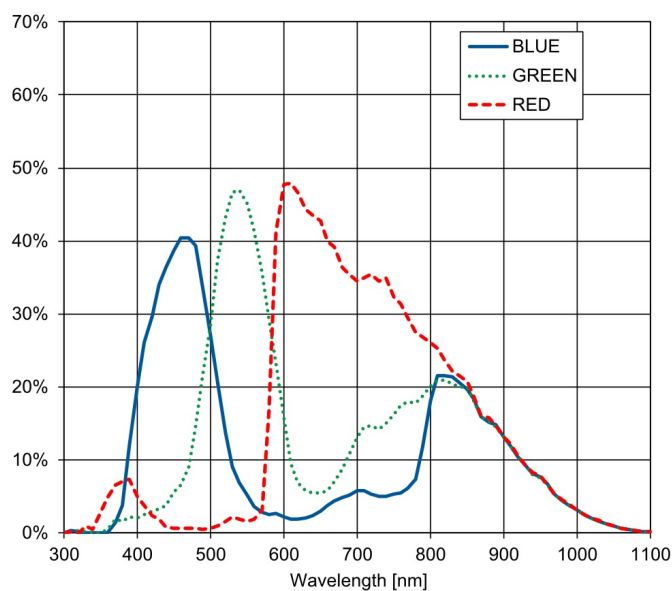
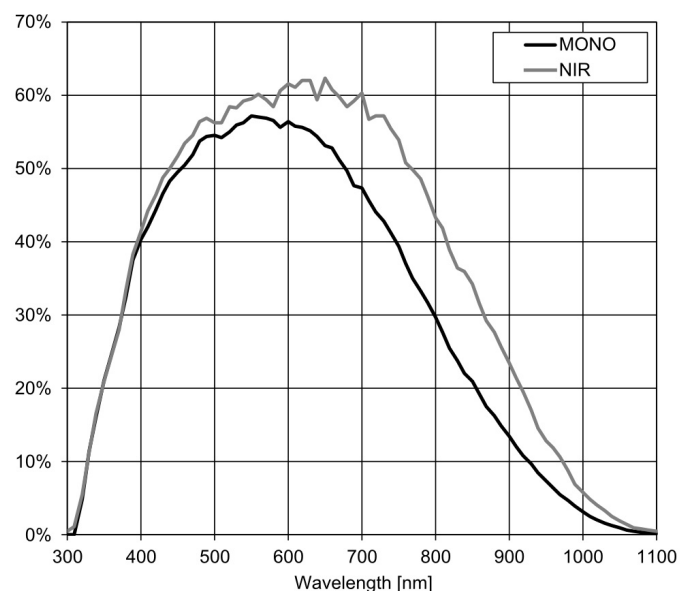
## Features

- ON Semiconductor PYTHON2000 CMOS image sensor
- 1984 x 1264 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 21fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

Manufacturer / Type	ON Semiconductor, PYTHON2000
Technology	CMOS
Optical format	2/3"
Optical diagonal	11.29mm
Resolution	1984 x 1264
Pixel size	4.8μm x 4.8μm
Active optical area	9.52mm x 6.07mm
Dark current	9.3e-/s
Read out noise	10e-
Full well capacity / SNR	10ke- / 100:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) NIR: 330 to 970nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit NIR: $854 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 850nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% NIR: < 60% Color: < 45%
Optical fill factor	n/a
Dynamic range	60dB
Characteristic curve	Linear
Shutter mode	Global shutter

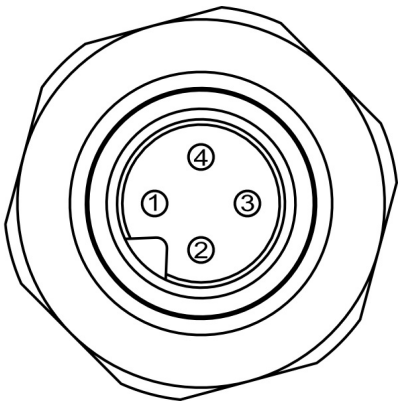
## Camera Specifications

Interface	GigE
Frame rate	44fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

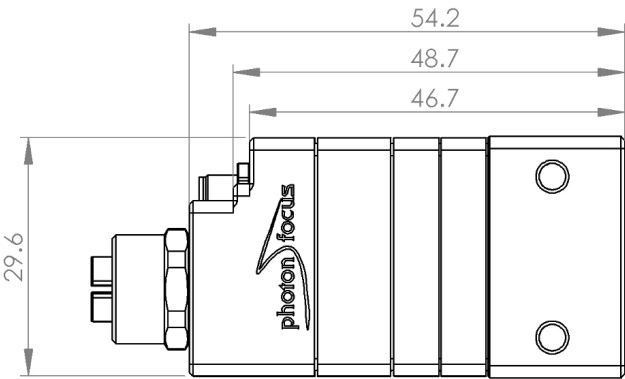
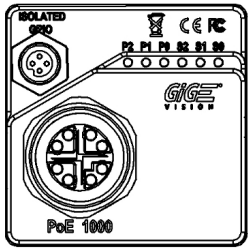
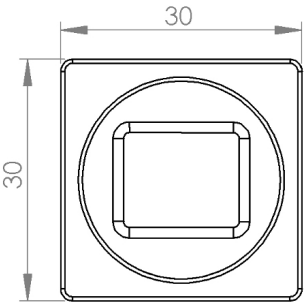
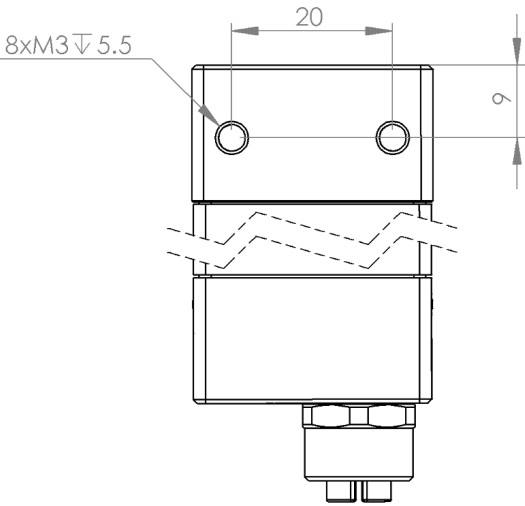


Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D1984-O01-144-G2	BW model
MV0-D1984I-O01-144-G2	NIR model

## Compatibility



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# MV0-D1920-S01-240-G2

The camera series MV0-D1920(C)-S01-G2 is based on the SONY IMX174 CMOS image sensor

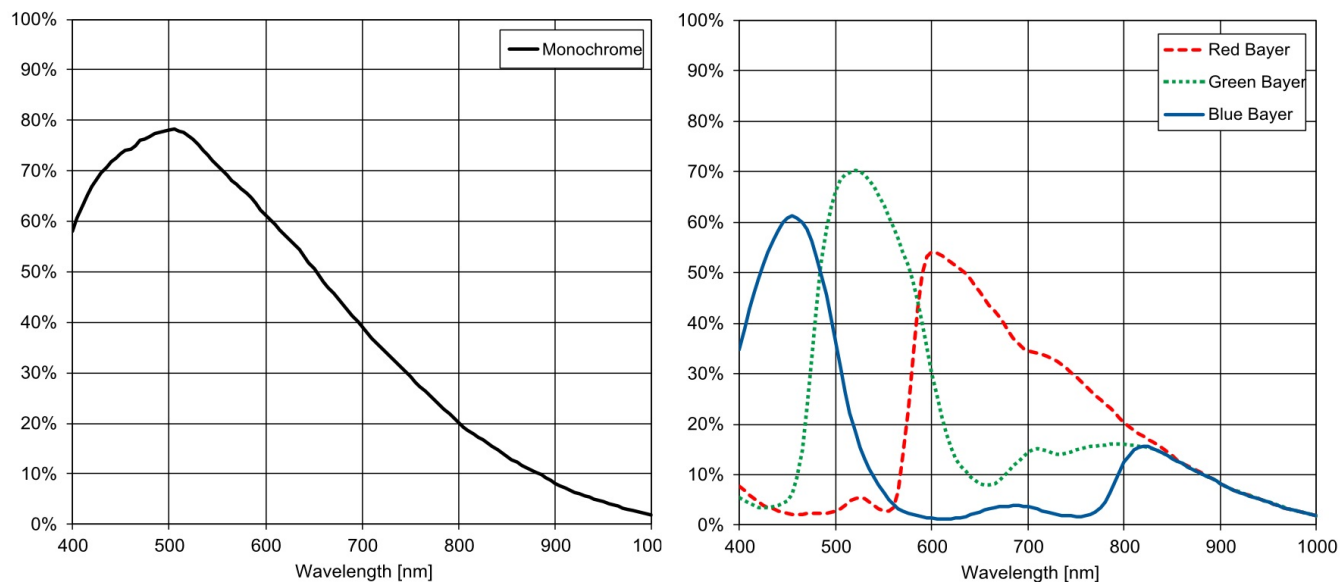
## Features

- SONY IMX174 CMOS image sensor
- 1920 x 1200 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 48fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 12bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

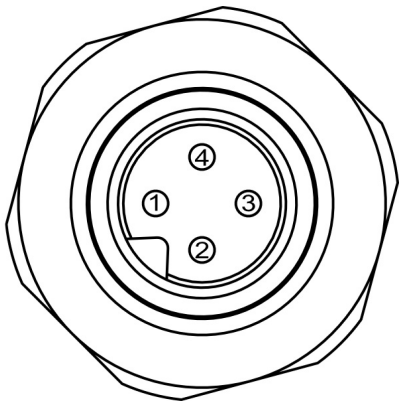
Manufacturer / Type	Sony, IMX174
Technology	CMOS
Optical format	1/1.2"
Optical diagonal	13.27mm
Resolution	1920 x 1200
Pixel size	5.86μm x 5.86μm
Active optical area	11.25mm x 7.03mm
Dark current	9.3e-/s
Read out noise	4e-
Full well capacity / SNR	32.5ke- / 180:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J/m}^2) @ 540\text{nm} / 8\text{bit}$ Color: $734 \times 10^3 \text{ DN} / (\text{J/m}^2) @ 540\text{nm} / 8\text{bit}$
Quantum Efficiency	Monochrome: < 75% Color: < 45%
Optical fill factor	n/a
Dynamic range	78dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

## Camera Specifications

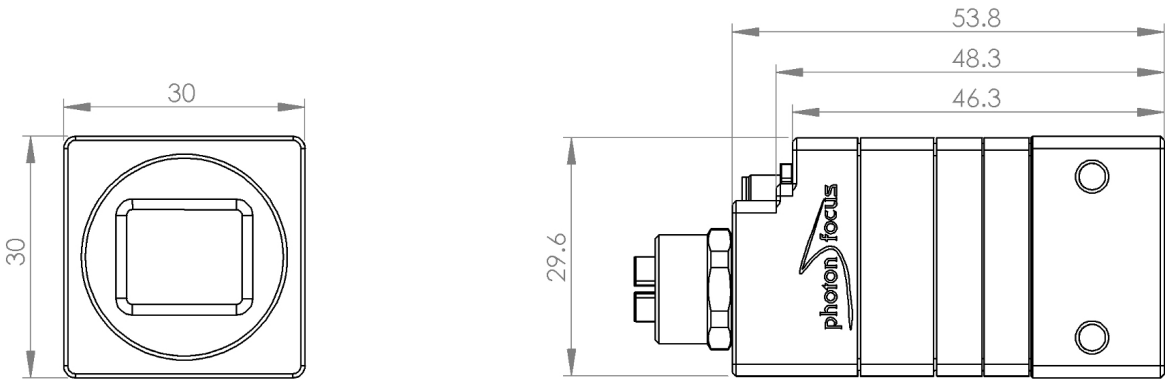
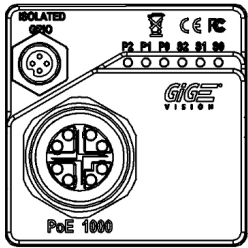
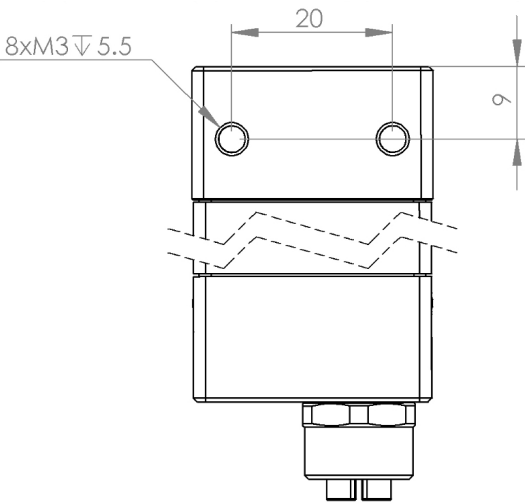
Interface	GigE
Frame rate	48fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D1920-S01-240-G2

BW model

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## Compatibility



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# MV0-D1280-O01-144-G2

The camera series MV0-D1280(I/C)-O01-G2 is based on the ON Semiconductor PYTHON1300 CMOS image sensor

## Features

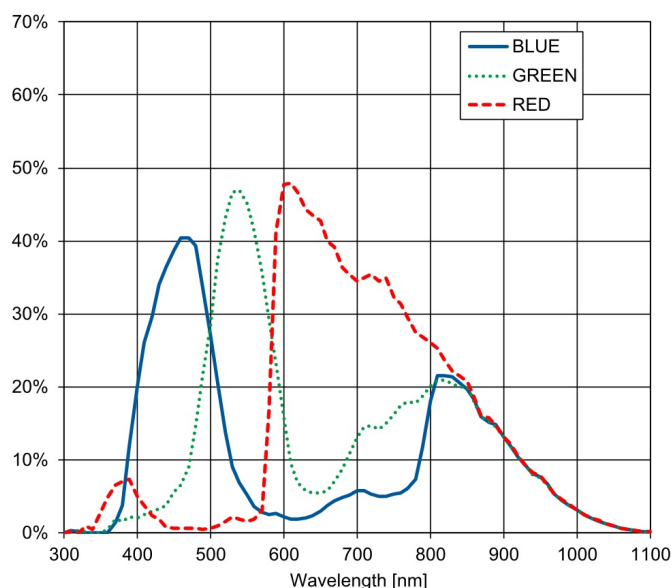
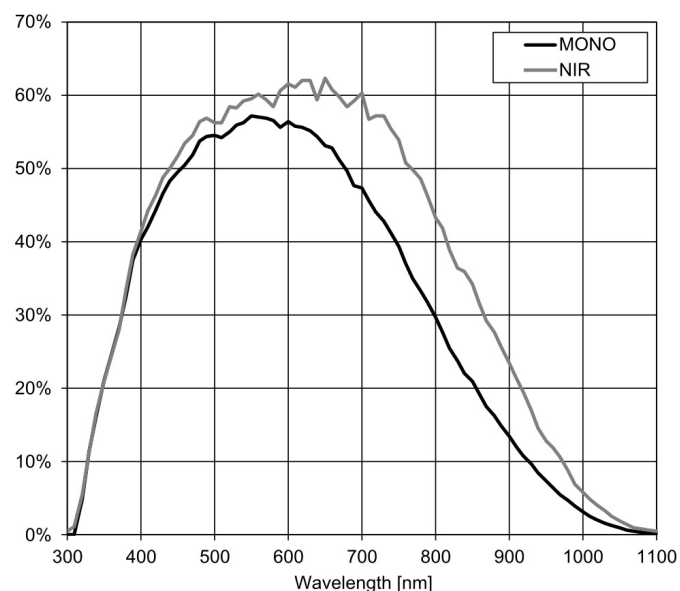
- ON Semiconductor PYTHON1300 CMOS image sensor
- 1280 x 1024 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 85fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- GigEVision interface (PoE)



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## Quantum Efficiency Image Sensor



## Image Sensor Specifications

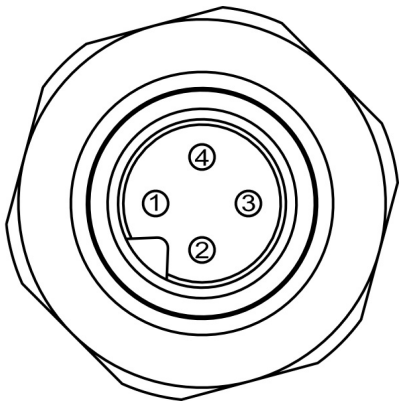
Manufacturer / Type	ON Semiconductor, PYTHON1300
Technology	CMOS
Optical format	1/2"
Optical diagonal	7.87mm
Resolution	1280 x 1024
Pixel size	4.8μm x 4.8μm
Active optical area	6.14mm x 4.92mm
Dark current	5e-/s
Read out noise	10e-
Full well capacity / SNR	10ke- / 100:1
Spectral range	Monochrome: 330 to 930nm (to 10% of peak responsivity) NIR: 330 to 970nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: $943 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit NIR: $854 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 850nm / 8bit Color: $734 \times 10^3 \text{ DN} / (\text{J}/\text{m}^2)$ @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 57% NIR: < 60% Color: < 45%
Optical fill factor	n/a
Dynamic range	60dB
Characteristic curve	Linear
Shutter mode	Global shutter

## Camera Specifications

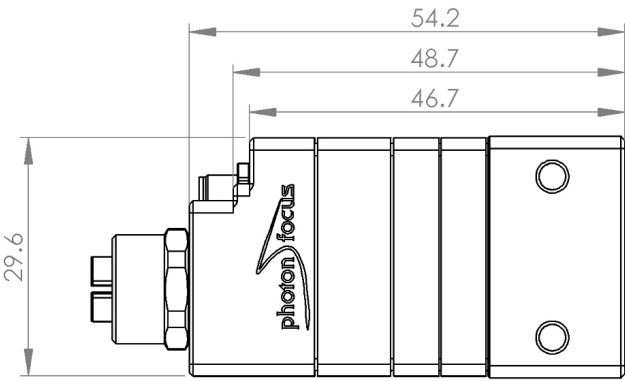
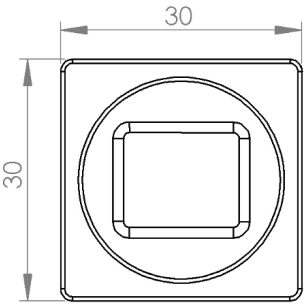
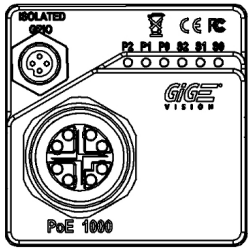
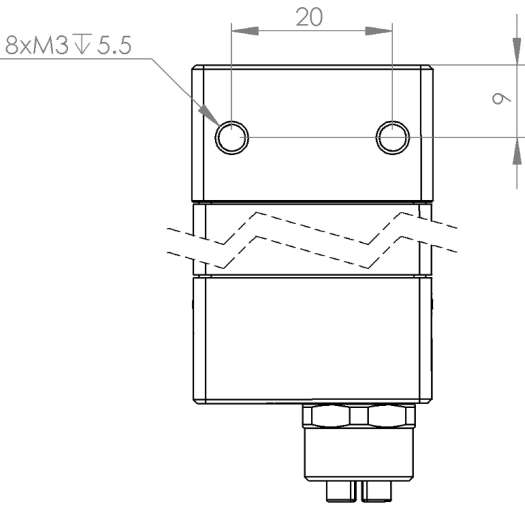
Interface	GigE
Frame rate	85fps
Pixel clock	72MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	10µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate independent of exposure time, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	PoE (compliant according to IEEE 802.3af standard Class: 2)
Power consumption	< 4.2W
Lens mount	C-Mount
I/O Inputs	2x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	30 x 30 x 53mm <sup>3</sup>
Mass	75g
Connector I/O (Power)	Binder 4-pole (mating plug M5 x 0.5, Series 707)
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

Connectors

Pin	I/O Type	Name	Description
1	I	ISO_IN	Trigger input (opto-isolated)
2	PWR	ISO_GND	I/O GND 0V
3	O	ISO_OUT	Strobe output (opto-isolated)
4	n.a.	Reserved	Do not connect



Dimensions



## Explanation

DN DigitalNumber (equals to LSB)

e<sup>-</sup> Electrons

## Order Information

MV0-D1280-O01-144-G2	BW model
MV0-D1280I-O01-144-G2	NIR model

## Compatibility



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