MV4-D1600-S01-GT

The MV4 CMOS camera series was developed for advanced machine vision applications, motion analysis and demanding applications of optical metrology. The SONY CMOS image sensor IMX425 convices with highfull and an excellent signal to noise ratio. With a remarkable pixel size of 9 µm is the sensor best suitable for optical measurment technology.

Features

- Sony IMX425 CMOS image sensor
- 1600 x 1100 pixel resolution
- 260fps
- 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

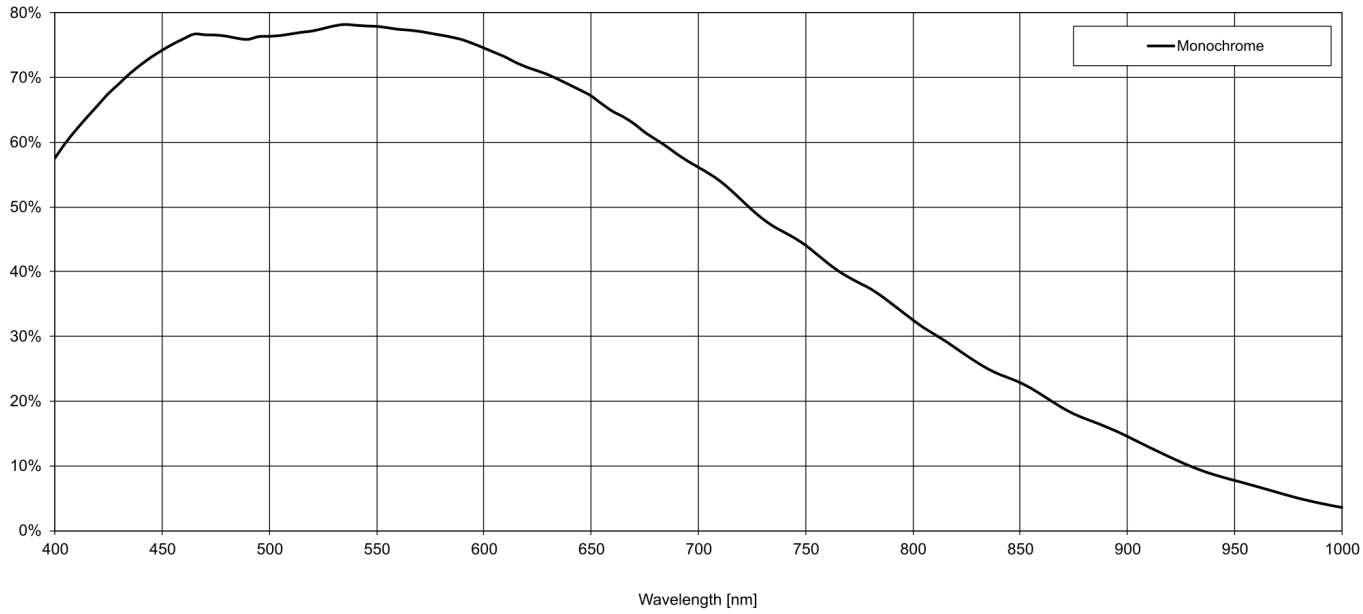

Image Sensor Specifications

Manufacturer / Type	Sony, IMX425
Technology	CMOS
Optical format	1"
Optical diagonal	17.47mm
Resolution	1600 x 1100
Pixel size	9µm x 9µm
Active optical area	14.4mm x 9.9mm
Dark current	4e- @60°C (1/30 s storage)
Read out noise	3e-
Full well capacity / SNR	SNR 100ke- / 316:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity)
Responsivity	Monochrome: 400.10^3 DN / (J/m^2) @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 78%
Optical fill factor	n.a.
Dynamic range	86dB
Characteristic curve	Linear
Shutter mode	Global shutter

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Camera Specifications

Interface	10GigE
Frame rate	260fps
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	8.13µs - 559ms
Analog gain	no
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger, Encoder
Features	Configurable region of interest (ROI), up to 8 MROI, Two crosshairs 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	14W
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 102.9 mm³
Mass	465g
Connector I/O (Power)	17-pol. M12
Connector Interface	X-coded M12
Conformity	CE / RoHS / WEEE
IP Code	IP40

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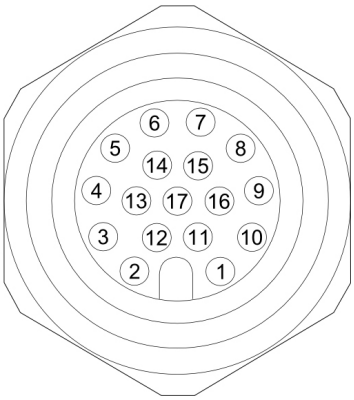
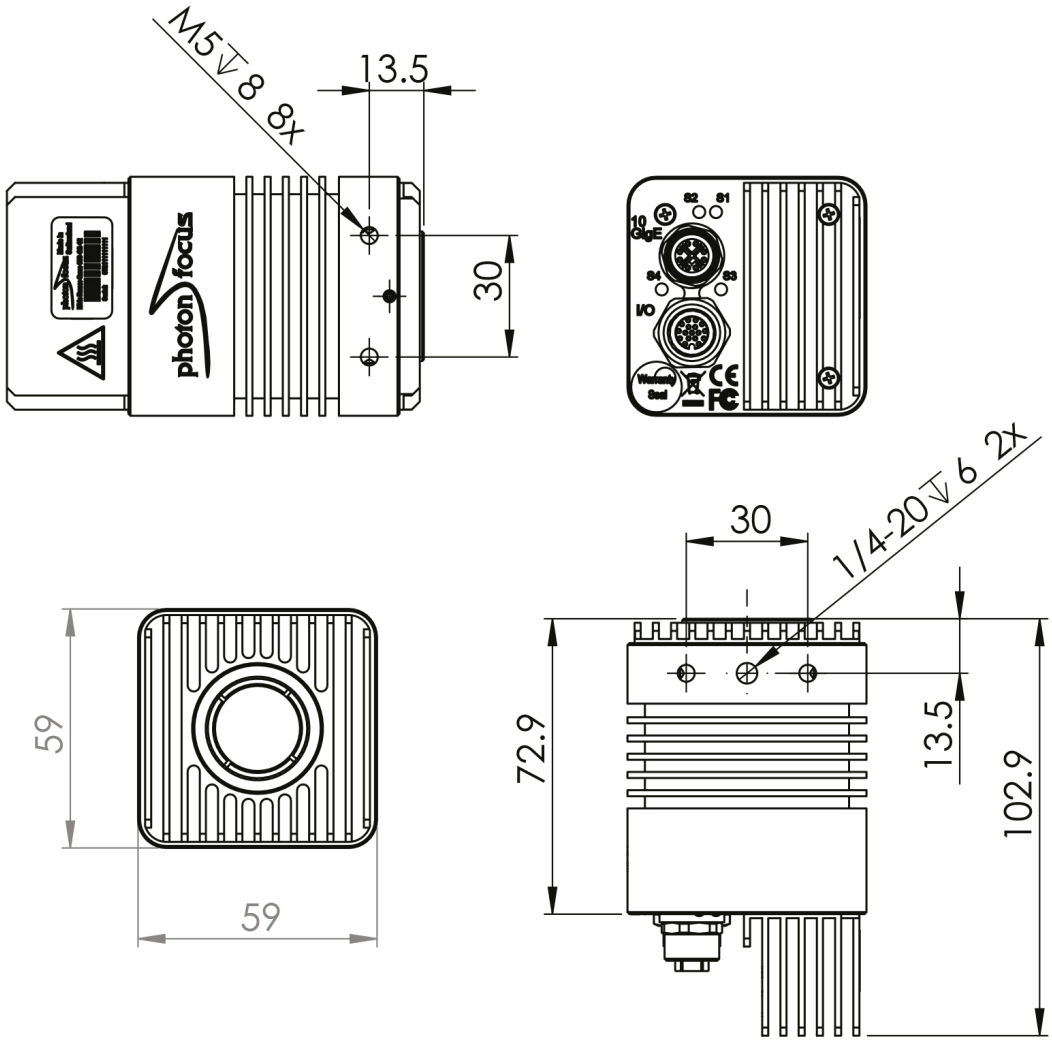
Connectors

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



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Explanation

DN DigitalNumber (equals to LSB)

e^- Electrons

Order Information

MV4-D1600-S01-GT	BW model

Compatibility

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