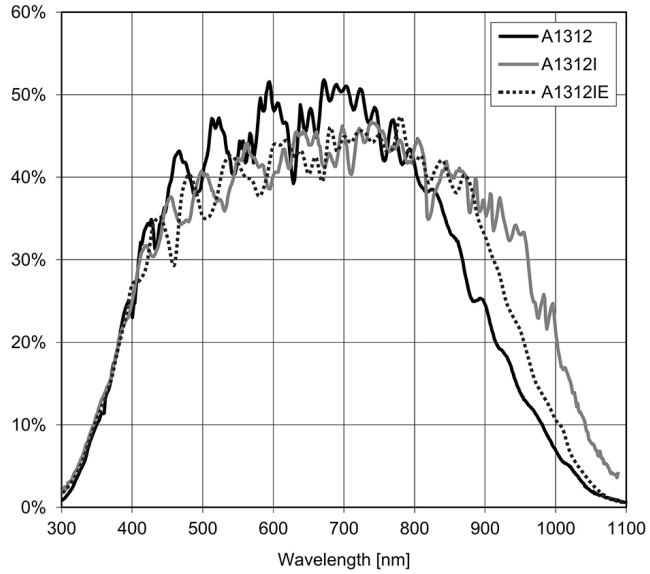
MV1-D1312-160-CL

The camera series MV1-D1312(IE)-CL is based on the Photonfocus A1312 and A1312IE CMOS image sensors with LinLog® technology

Features

- Photonfocus A1312 CMOS image sensor
- 1312 x 1082 pixel resolution
- Very good NIR spectral response
- Exceptional SNR up to 300: 1
- Dynamic range up to 120dB via LinLog®
- Up to 108fps @ full resolution
- Global shutter
- Available in monochrome, NIR, enhanced NIR and color
- Extended sensor and camera features
- Reduction of ROI in x- and y-direction increases frame rate
- Up to 12bit greyscale resolution
- Boardlevel and OEM solution available
- CameraLink® interface

Quantum Efficiency Image Sensor



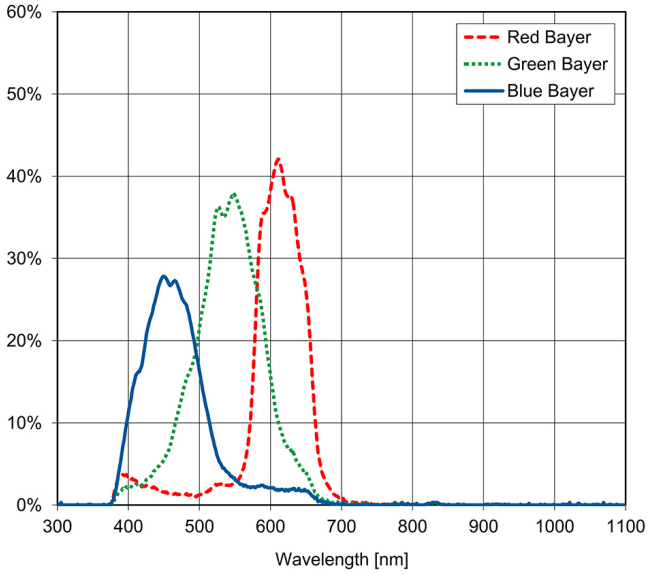


Image Sensor Specifications

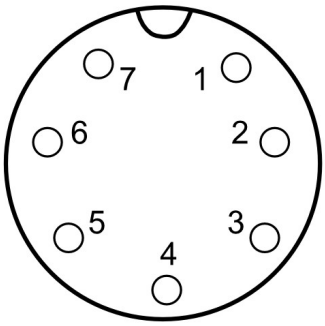
Manufacturer / Type	Photonfocus / A1312	
Technology	CMOS	
Optical format	1"	
Optical diagonal	13.6mm	
Resolution	1312 x 1082	
Pixel size	8µm x 8µm	
Active optical area	10.48mm x 8.64mm	
Dark current	4000e^-/s	
Read out noise	110e^-	
Full well capacity / SNR	90ke^- / 300: 1	
Spectral range	Monochrome: NIR Enhanced:	< 350 to 980nm (to 10% of peak responsivity) < 320 to 1000nm (to 10% of peak responsivity)
Responsivity	Monochrome: NIR Enhanced:	295 x 10^3 DN / (J/m²) @ 670nm / 8bit 305 x 10^3 DN / (J/m²) @ 850nm / 8bit
Quantum Efficiency	Monochrome: NIR Enhanced:	> 50% > 50%
Optical fill factor	> 60%	
Dynamic range	60dB in linear mode; 120dB with LinLog®	
Characteristic curve	Linear, LinLog®	
Shutter mode	Global shutter	

Camera Specifications

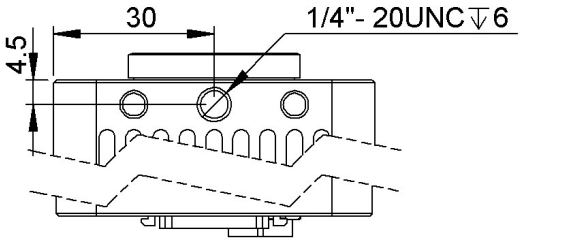
Interface	Camera Link
Frame rate	108fps
Pixel clock	80MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit / 12Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8bit
Exposure time range	10µs - 419ms
Analog gain	n/a
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 512 regions of interest (MROI), Decimation in y-direction, Image correction, 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, 3x3 convolver for image preprocessing, Temperature monitoring of sensor and 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	+12VDC (-10%) ... +12VDC (+10%)
Power consumption	< 3.3W
Lens mount	C-Mount (CS-Mount optional)
I/O Inputs	1x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	60 x 60 x 45mm³
Mass	265g
Connector I/O (Power)	Binder 7-pole (mating plug 99-0421-00-07)
Connector Interface	CameraLink Base (MDR)
Conformity	CE / RoHS / WEEE
IP Code	IP20

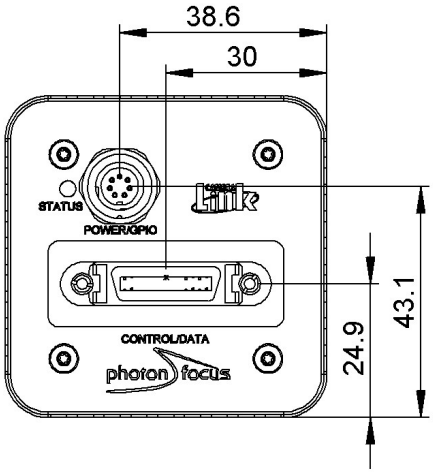
Connectors

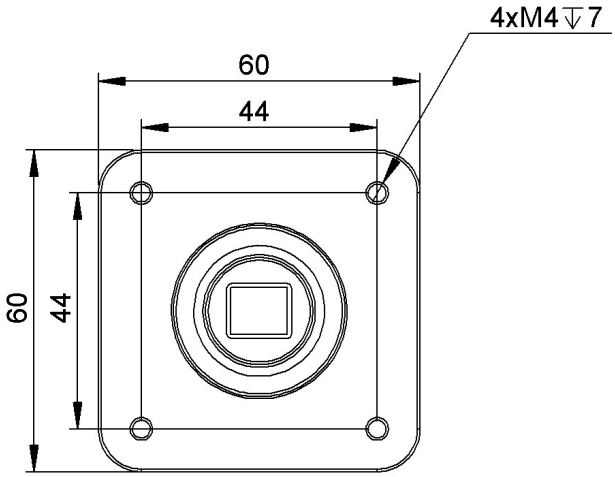
Pin	I/O Type	Name	Description
1	PWR	CAMERA_PWR	Camera Power 12VDC
2	PWR	CAMERA_GND	Camera GND 0V
3	O	RESERVED	Do not connect
4	PWR	STROBE-VDD	+5 ... +15 VDC
5	O	STROBE	Strobe control (opto-isolated)
6	I	TRIGGER	External trigger (opto-isolated), +5 .. +15VDC
7	PWR	GROUND	Signal ground (for opto-isolated strobe signal)

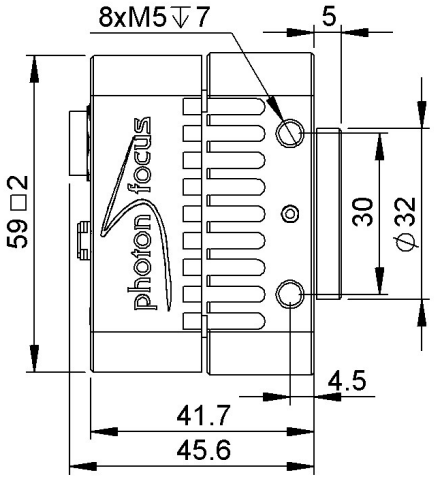


Dimensions









Explanation

DN	DigitalNumber (equals to LSB)
e^-	Electrons

Order Information

MV1-D1312-160-CL-12	BW model
MV1-D1312IE-160-CL-12	NIR-Enhanced model

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