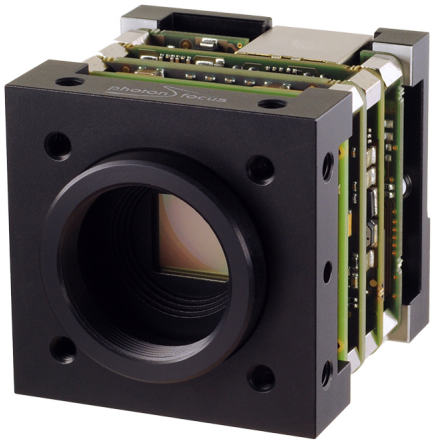
BL1-D1024E-80-G2

The board level camera BL1-D1024E-80-G2 is derived from the MV1-D1024E-80-G2 camera and is in the feature set 100% compatible

Features

- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Exceptional SNR up to 447:1
- Dynamic range up to 120dB via LinLog®
- Up to 75fps @ full resolution
- Global shutter
- Monochrome
- Extended sensor and camera features
- Reduction of ROI in x- and y-direction increases frame rate
- Up to 12bit greyscale resolution
- Camera and OEM solution available
- GigEVision interface



© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

Quantum Efficiency Image Sensor

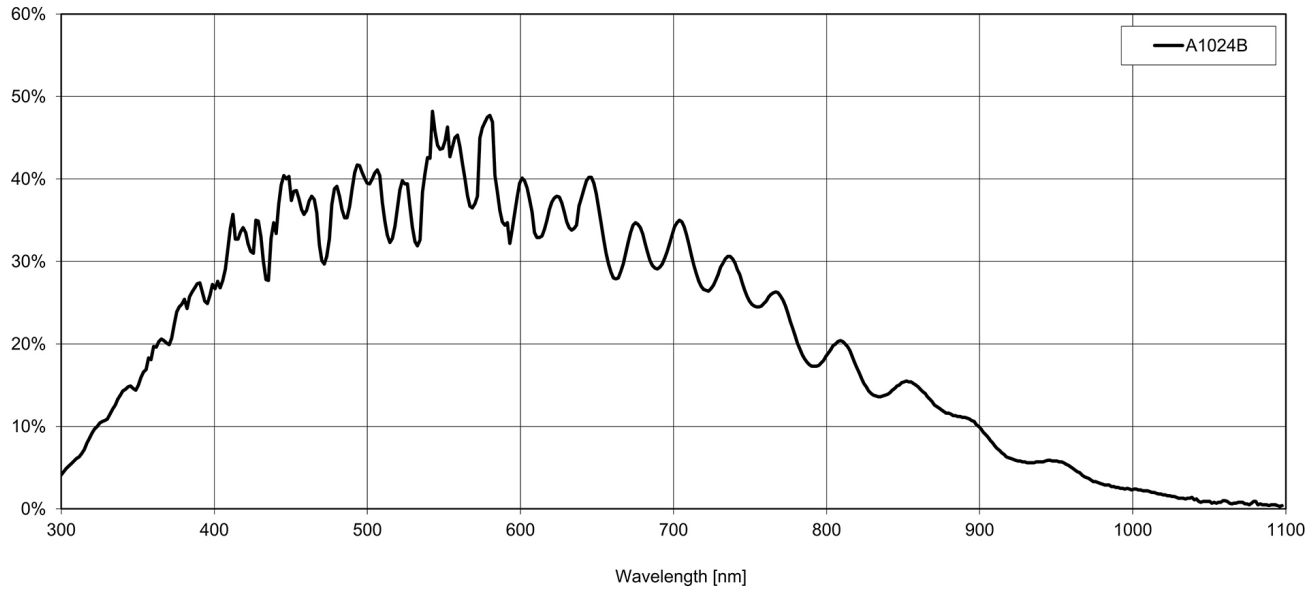


Image Sensor Specifications

Manufacturer / Type	Photonfocus, A1024
Technology	CMOS
Optical format	1"
Optical diagonal	15.42mm
Resolution	1024 x 1024
Pixel size	10.6µm x 10.6µm
Active optical area	10.9mm x 10.9mm
Dark current	107'000e-/s
Read out noise	220e-
Full well capacity / SNR	200ke- / 447:1
Spectral range	Monochrome: 400 to 900nm (to 10% of peak responsivity)
Responsivity	Monochrome: 120 x 10^3 DN / (J/m^2) @ 610nm / 8bit
Quantum Efficiency	Monochrome: < 45%
Optical fill factor	35%
Dynamic range	60dB in linear mode; 120dB with LinLog®
Characteristic curve	Linear, LinLog®, Skimming
Shutter mode	Global shutter

© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

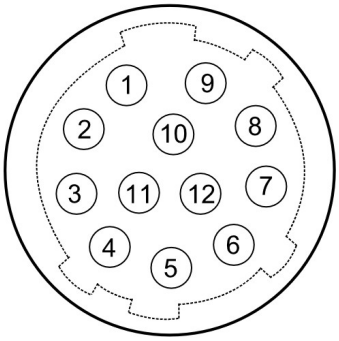
Camera Specifications

Interface	GigE
Frame rate	75fps
Pixel clock	40MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit / 12Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8bit
Exposure time range	10µs - 838ms
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, 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	+12VDC (-10%) ... +24VDC (+10%)
Power consumption	< 4.8W
Lens mount	C-Mount (CS-Mount optional)
I/O Inputs	2x Opto-isolated 2x RS-422 Opto-isolated
I/O Outputs	2x Opto-isolated
Dimensions	46 x 46 x 49mm³
Mass	144g
Connector I/O (Power)	Hirose 12-pole (mating plug HR10A-10P-12S)
Connector Interface	RJ-45
Conformity	CE / RoHS / WEEE
IP Code	IP20

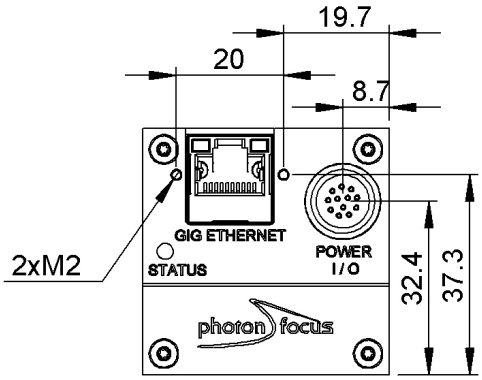
© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

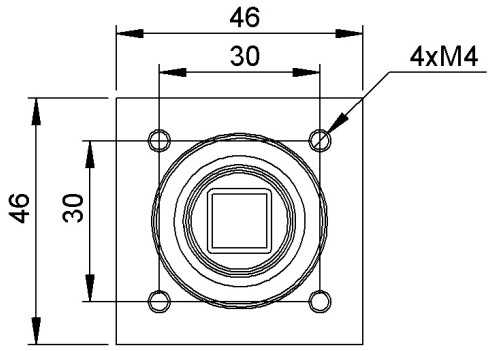
Connectors

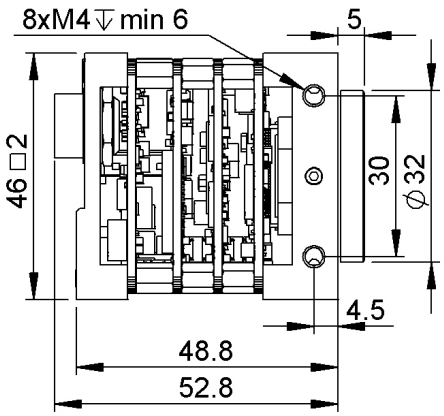
Pin	I/O Type	Name	Description
1	PWR	CAMERA_GND	Camera GND 0V
2	PWR	CAMERA_PWR	Camera Power 12V... 24V
3	O	ISO_OUT0	Default Strobe out, internally Pulled up to ISO_PWR with 4k7 Resistor
4	I	ISO_INC0_N	INC0 differential input (G2: RS-422, H2: HTL), negative polarity
5	I	ISO_INC0_P	INC0 differential input (G2: RS-422, H2: HTL), positive polarity
6	PWR	ISO_PWR	Power supply 5V… 24V for output signals
7	I	ISO_IN0	IN0 input signal
8	O	ISO_OUT1 (MISC)	Q1 output from PLC, no Pull up to ISO_PWR; can be used as additional output (by adding Pull up) or as controllable switch (max. 100mA, no capacitive or inductive load)
9	I	ISO_IN1(Trigger IN)	Default Trigger IN
10	I	ISO_INC1_N	INC1 differential input (G2: RS-422, H2: HTL), negative polarity
11	I	ISO_INC1_P	INC1 differential input (G2: RS-422, H2: HTL), positive polarity
12	PWR	ISO_GND	I/O GND 0V



Dimensions







© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.

Explanation

DN DigitalNumber (equals to LSB)

e^- Electrons

Order Information

BL1-D1024E-80-G2-12	BW model

Compatibility

Photonfocus AG
Bahnhofplatz 10
CH-8853 Lachen SZ
Switzerland

Phone: +41 55 451 00 00
www.photonfocus.com
info@photonfocus.com

© Photonfocus AG. All rights reserved. This datasheet is subject to change by Photonfocus at any time without any prior notice and Photonfocus cannot be held responsible for any technical or typographical errors.