

# BOARD LEVEL CAMERAS

## Compact Solution For Application-Specific Systems

For easier integration into tailored customer applications and especially where space or weight is a limiting factor we offer most of our camera products as a “Board Level” model.

All of the features and technical data are identical to the standard cameras except for the mechanical dimensions. The footprint of these cameras is as small as 45 mm x 45 mm. The depth varies depending on the product type and chosen interface.



BL1-D1024E-160-CL-12



### Board Level Cameras Selection Chart

CMOS Board Level Cameras	Photonfocus CMOS Sensor	Sensor name / generation	Resolution	Frame rate @ full resolution [fps]	Dynamic range [dB] 120 dB= LinLog®	Colour format (BW / Color)	Number of Modules	Greyscale [bit]	Region of Interest (MIROI)	Global shutter
BL1-D752E-40-CL-12	✓	A1024B / 2.	752x582	87	120	✓/-	2	12	≤ 16	✓
BL1-D752E-40-U2-8	✓	A1024B / 2.	752x582	87	120	✓/-	2	8	≤ 16	✓
BL1-D1024E-40-CL-12	✓	A1024B / 2.	1024x1024	37	120	✓/-	2	12	≤ 16	✓
BL1-D1024E-40-U2-8	✓	A1024B / 2.	1024x1024	37	120	✓/-	2	8	≤ 16	✓
BL1-D1024E-80-CL-12	✓	A1024B / 2.	1024x1024	75	120	✓/-	3	12	≤ 16	✓
BL1-D1024E-160-CL-12	✓	A1024B / 2.	1024x1024	150	120	✓/-	3	12	≤ 16	✓



BL1-D1024E-40 BL1-D752E-40	BL1-D1024E-80	BL1-D1024E-160
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**Image Sensor**

Technology	CMOS active pixel	
Scanning system	Progressive scan	
Optical format / diagonal	1" / 15.42 mm (OEM-D752E-40: 2/3" / 10.12 mm)	
Resolution	1024 x 1024 pixels (OEM-D752E-40: 752 x 582 pixels)	
Pixel size	10.6 µm x 10.6 µm	
Active optical area	10.9 mm x 10.9 mm (OEM-D752E: 8.0 mm x 6.2 mm)	
Random noise	< 0.5 DN RMS @ 8 bit / gain = 1	
Fixed pattern noise (FPN)	< 1.0 DN RMS @ 8 bit / gain = 1 / offset correction on	
Dark current	2 fA / pixel @ 30 °C	
Full well capacity	200 ke <sup>-</sup>	
Spectral range	400 nm ... 900 nm	
Responsivity	120 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1)	
Optical fill factor	35 %	
Dynamic range	Up to 120 dB with LinLog®	
Colour format	Monochrome	
Characteristic curve	Linear, LinLog®, Skimming	
Shutter mode	Global shutter	
Read out mode	Sequential exposure	Sequential read out or simultaneous read out (read out during exposure)

**Board Level Cameras**

Exposure time	10 µs ... 0.41 s / 25 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.41 s / 25 ns steps
Frame rate CL	37 fps (OEM-D752E-40: 87 fps)	75 fps	150 fps
Frame rate USB	Up to 37 fps (OEM-D752E-40: 87 fps) (mode & bitdepth dependent)	-	-
Pixel clock	40 MHz	40 MHz	80 MHz
Camera taps	1	2	
Greyscale resolution	12 bit / 10 bit / 8 bit		
Analogue gain	1		
Digital gain	1 or 2 or 4		
Configuration interface	CL SERIAL (9600 baud)	CL SERIAL (9600 baud or 57600 baud, user selectable)	
Trigger modes	• Free running (non triggered) • Interface trigger • I/O trigger		
Features	• (Multiple) Regions of interest (ROI/MROI) • On-camera shading correction • Decimation in x (only BL-D752E-40 and OEM-D1024E) and y direction • Look-up Table • Image information • Skimming • LinLog® • Trigger input • Strobe output		
Interface	CameraLink® base or USB 2.0 configuration	CameraLink® base configuration	
Operating temperature	0°C – +50 °C		
Power supply	+12 V DC (+/-10 %)		
Power consumption	1.6 W (CL) / 3.0 W (USB 2.0)	3.0 W	3.2 W
Lens mount	C-Mount (CS-Mount optional)		
Dimensions	TBD		
Mass	TBD		
Conformity	RoHS / WEEE		

**Software**

Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK); for USB 2.0: MicroDisplay GUI + SDK
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