ximea

xiB

High-performance cameras
with PCIe X4G2 interface

xiB Fast, high performance PCIe cameras

Large sensor streaming cameras with lowest latency

Facts

- 4.2 - 50 Mpix large area sensors
- CMOS and sCMOS, color, monochrome and NIR-enhanced sensors
- Fast PCIe Generation 2, 4 lane 20 Gbps interface
- Fiber-optic up to 100 m and copper connectivity
- Active EF-mount with support for motorized aperture and focus
- C-mount option for smaller sensors
- Compact dimensions - 60 x 60 x 38 mm

Features

- Compatible with the xiFLY platform
- No frame grabber required, DMA transfer, no CPU load
- Direct GPU transfer with selected NVIDIA boards under Linux
- Industry standard iPass connector
- Flexible GPIO with optoisolated and TTL options
- Support for motorized aperture and focus on EF-lenses
- Models with NIR enhanced or taped glass sensors available
  (please ask our sales teams for further information)
- Rugged and lightweight, aluminum alloy CNC machined housing

High performance

xiB cameras excel in speed, resolution and dynamic range, featuring a complete lineup of global shutter sensors. With up to 50 Mpix for superior resolution or sCMOS with various options for a high dynamic range output, the choice is yours.

Fast

With the 20 Gbps high-speed PCIe Generation 2, 4 lane interface, the xiB cameras can achieve 12 Mpix at 133 fps of uncompressed data or 4K resolution at 189 fps! As the cameras act as bus master devices, they can deliver data directly to memory with exceptionally low latency and CPU loads. For selected NVIDIA GPUs under Linux, the image data can even be directly transferred to GPU memory.
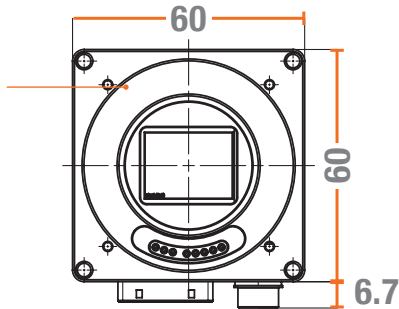
Stretching the distance

The use of optical fiber cables allows distances between cameras and host computers up to 100 m without performance penalty and even 300 m with reductions in frame rate. Put your camera where the action is: monitor and record from a distance.

Sturdy and versatile

A rugged, precision CNC milled aluminum alloy housing with industry standard iPass connectors, multiple GPIO options, motorized lens functions, and an interface without the need for frame grabbers makes the xiB family cameras the primary choice for the most demanding vision applications.
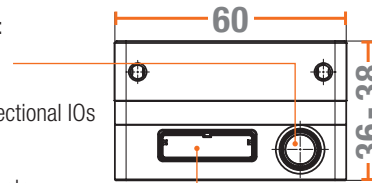
xiB - PCIe X4G2 housing

- 4 * M4 mounting threads for custom lens mounts
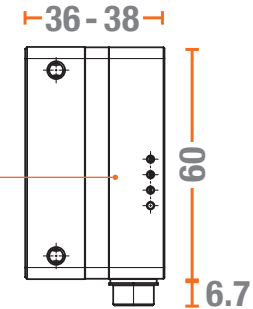- Extendable with active Canon EF-mount adapter or C-mount adapter

60
60
6.7

- 12 pin Hirose connector for AUX power and GPIOs:
- 2 * opto-isolated inputs
- 2 * opto-isolated outputs
- 4 * fast non-isolated bidirectional IOs

iPass external PCIe x4 connector

60
36 - 38

Control, power and connection LEDs

36 - 38
60
6.7

Supported operating systems

Windows
Linux
macOS

Language support

C
C++
C#
python™

Standards

GEN<i>CAM
TRANSPORT LAYER

PCI EXPRESS®

Supported vision libraries

MATLAB
POWERED BY NATIONAL INSTRUMENTS LabVIEW™
HALCON a product of MVTec
OpenCV

and many more …

Sensors and models

Model		Sensor	Resolution	Pix. size [μm]	ADC [bits]	DR [dB]	FWC [ke-]	QE [%]	Sensor size diagonal [mm]	Optical size	Fps
CB120MG-CM	b/w	CMOSIS CMV12000	4096 x 3072 12.5 Mpix	5.5	8, 10, 12	60	13.5	46	22.5 x 16.9 28.1	APS-C	133 / 103 / 86 [1]
CB120RG-CM	b/w NIR	CMOSIS CMV12000	4096 x 3072 12.5 Mpix	5.5	8, 10, 12	60	13.5	50	22.5 x 16.9 28.1	APS-C	133 / 103 / 86 [1]
CB120CG-CM	color	CMOSIS CMV12000	4096 x 3072 12.5 Mpix	5.5	8, 10, 12	60	13.5	41	22.5 x 16.9 28.1	APS-C	133 / 103 / 86 [1]
CB200MG-CM	b/w	CMOSIS CMV20000	5120 x 3840 19.6 Mpix	6.4	12	66	15	70	32.8 x 24.6 41	35mm	32 [2]
CB200CG-CM	color	CMOSIS CMV20000	5120 x 3840 19.6 Mpix	6.4	12	66	15	43	32.8 x 24.6 41	35mm	32 [2]
CB500MG-CM	b/w	CMOSIS CMV50000	7920 x 6004 47.5 Mpix	4.6	12	64	14.5	TBD	36.4 x 27.6 45.6	35mm	30 / 22 [3]
CB500CG-CM	color	CMOSIS CMV50000	7920 x 6004 47.5 Mpix	4.6	12	64	14.5	TBD	36.4 x 27.6 45.6	35mm	30 / 22 [3]
CB042MG-GP	b/w	GPixel GSENSE2020e	2048 x 2048 4.1 Mpix	6.5	2 x 10 GS, 2 x 12 RS [4]	87	45	72	13.3 x 13.3 18.8	1.2"	45.7 / 93.5 [5]
CB042MG-GP-BSI	b/w	GPixel GSENSE2020-BSI	2048 x 2048 4.1 Mpix	6.5	2 x 11 RS [4]	90	54	94	13.3 x 13.3 18.8	1.2"	74

Note
[1] Full resolution, RAW 8 bits, 10 bits and 12 bits
[2] Full resolution, RAW 12 bits
[3] Full resolution, RAW 8 bits and 12 bits
[4] RS stands for rolling shutter, GS stands for global shutter
[5] Full resolution, rolling shutter HDR 12 bit mode and global shutter 8 bits mode

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Please visit us at **www.ximea.com** for complete and up-to-date specifications. Get in touch with our teams at **sales@ximea.com.** We will be glad to assist!

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