xiSPEC

Compact hypersperical cameras
with USB3 and PCIe interfaces

xiSPEC hyperspectral cameras

The smallest USB3 hyperspectral cameras.

Facts

- Cameras with 4, 16, 25, 100 & 150 spectral bands
- 170 fps with USB3 interface, 340 fps with PCIe
- Snapshot and linescan versions
- Smallest and lightest hyperspectral cameras available
- Low power consumption
- Rugged, without moving parts

Features

- Small - fast - flexible
- Snapshot with global shutter
  - 4x4 for 16 bands in the visible 470-630 nm range
  - 5x5 for 25 bands in the NIR 600-975 nm range
- Multi-linescan with global shutter
  - 100 spectral bands 600-975 nm range
  - 150 spectral bands 470-900 nm range
- Snapshot RGB-NIR with global shutter
  - 4 spectral bands 400-900 nm range
- Starter kit available for rapid development
- Flexible and programmable GPIO options

Hyperspectral

A Fabry-Perrot interference filter array on top of a fast CMOS sensor creates the basis for a camera design that combines hyperspectral imaging with high frame rates and a compact form factor. The obtained imagery can be interpreted to determine the chemical composition of materials.
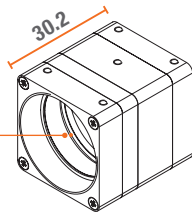
Small & light

Simply the most compact method of retrieving hyperspectral imagery of a subject. Being small and light as well having low power consumption makes the cameras ideal for mobile applications such as UAVs or handheld devices.
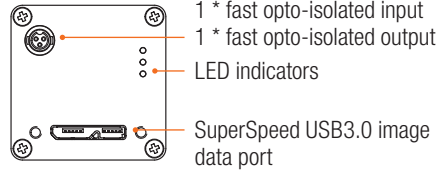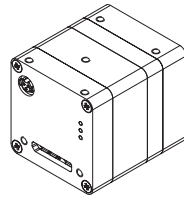
Fast

USB3.1 or PCIe interfaces allow extreme data acquisition rates. For either option, the data can be processed on the fly or saved for later analysis.
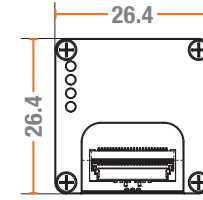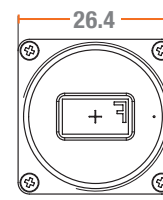
Housing examples

Housed cameras with Micro-B connector

Semi housed cameras with 'FL' ribbon cable connector

30.2

26.4 **26.4**

26.4

Standard C/CS-mount with model-specific, customized filter glass

1 * fast opto-isolated input
1 * fast opto-isolated output
LED indicators
SuperSpeed USB3.0 image data port

PCI Express Options

All HSI cameras are compatible with xiFLY configurations and are available with PCIe interfaces

35.2

26.4

30.9
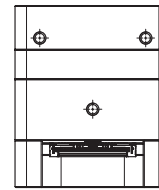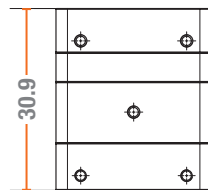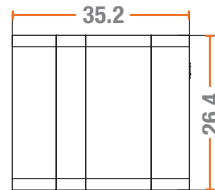
- High speed interface with compact ribbon cable connection
- Up to 340 fps
- Interface is ideal for embedded/mobile and NVIDIA Jetson installation
- Inquire with your representative for availability

Supported operating systems

Windows
Linux
macOS

Language support

C
C++
C#
python™

Standards

GEN<i>CAM
TRANSPORT LAYER
USB3 VISION
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]	Sensor size / diagonal [mm]	Optical size	Fps [1]	Power typ. [W]	Bands	Spectral range
MQ022HG-IM-LS100-NIR	IMEC CMV2K-LS100-600-1000	2048 x 1088 2.2 Mpix	5.5	10	11.3 x 6.0 12.8	2/3"	170	1.5	100	600-975
MQ022HG-IM-LS150-VISNIR	IMEC CMV2K-LS150-470-900	2048 x 1088 2.2 Mpix	5.5	10	11.3 x 6.0 12.8	2/3"	170	1.5	150	470-900
MQ022HG-IM-SM4X4-VIS	IMEC CMV2K-SSM4X4-470-620	2048 x 1088 2.2 Mpix	5.5	10	11.3 x 6.0 12.8	2/3"	170	1.5	16	470-630
MQ022HG-IM-SM5X5-NIR	IMEC CMV2K-SSM5X5-600-1000	2048 x 1088 2.2 Mpix	5.5	10	11.3 x 6.0 12.8	2/3"	170	1.5	25	600-975
MQ022HG-IM-SM2X2-RGBNIR	IMEC CMV2K-SSM2X2-RGBNIR	2048 x 1088 2.2 Mpix	5.5	10	11.3 x 6.0 12.8	2/3"	170	1.5	4	400-900

Notes
[1] Full resolution. RAW8 format

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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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