

# Subminiature USB2 cameras

ximea

smallest industrial grade camera • lowest power consumption • 5 Mpix



**ximu**

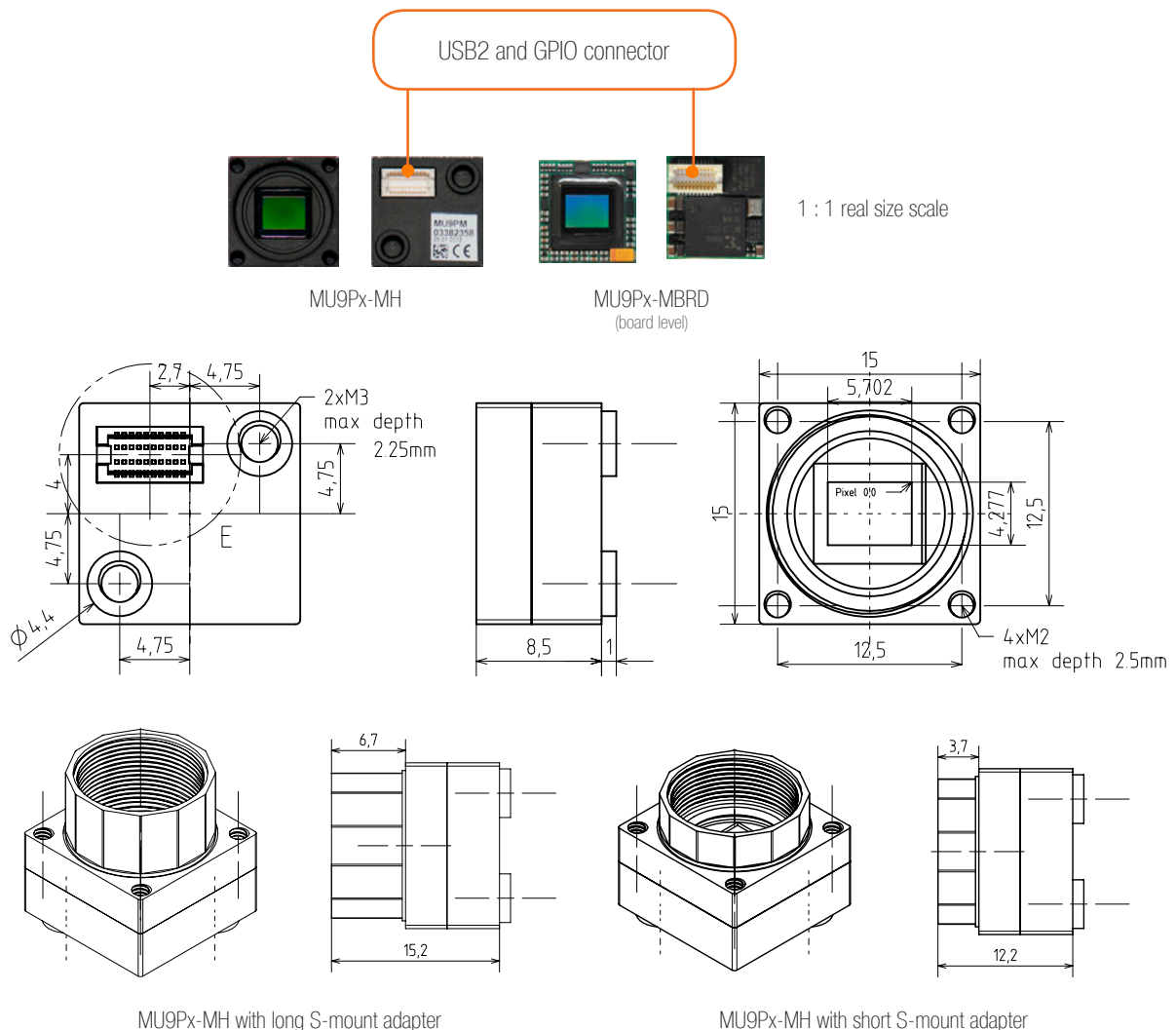
board level and housed cameras

# xiMU - quick facts

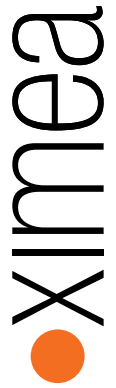
**xiMU** [ksi-mju: or sai-mju:] is a subminiature USB 2.0, triggerable, fully industrial grade camera family with outstanding features:

- Incredibly small: World smallest USB camera with GenICam/GenTL support.
- Low thermal dissipation
- Single PCB, board level version available

|                               |   |
|-------------------------------|---|
| Sensor Technology             | CMOS, rolling shutter with Global Reset Release                               |
| Acquisition Modes             | Continuous, software trigger, hardware trigger                                |
| Partial Image Readout         | ROI, Skipping and Binning modes supported                                     |
| Image data formats            | 8, 10 or 12 bit RAW pixel data  |
| Color image processing        | Host based de-Bayering, sharpening, Gamma, color matrix                       |
| Hot/blemish pixels correction | On camera storage of pixel coordinates, host assisted correction              |
| Auto adjustments              | Auto white balance, auto gain, auto exposure                                  |
| Flat field corrections        | Host assisted pixel level shading   |
| General Purpose I/O           | 4x I/O lines (bidirectional)  |
| Synchronization               | Hardware trigger input, software trigger, exposure strobe output, busy output |
| Housing and lens mount        | Standard S-mount (M12). Two lens mount adapters available                     |
| Power requirements            | Typ. 0.6 W, supplied via USB 2.0 interface                                    |
| Operating systems             | Windows, Linux Ubuntu, MacOS (>10.8)  |
| Software support              | xiAPI SDK, adapters and drivers for various image processing packages         |
| USB standard compatible       | USB 2.0, Universal Serial Bus Specification                                   |



# xiMU - leading vision libraries supported



- Quick integration with third-party software using our easy-to-learn API/SDK and many examples made for AQSENSE SAL3D, Open CV, Aforge.NET, etc.
- All XIMEA cameras are plug-and-play compatible with most of the major image processing libraries on the market, including **MVTec HALCON**, **National Instruments LabVIEW**, **MathWorks MATLAB**, **STEMMER IMAGING Common Vision Blox**, **OpenCV** and many others.
- Support for GenICam/GenTL ensures forward compatibility with emerging image processing libraries, frameworks and packages.
- One-stop support of the camera and vision libraries integration.
- Open online community: Share experience, exchange knowledge and solutions at [www.ximea.com/community](http://www.ximea.com/community).

Compatible with more than 30 popular machine vision libraries:

Please checke webstie for up-to-date list:



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# xiMU - series camera specifications

## Sensors and models:

| Model                  | Sensor         | Resolution          | Pixel size [µm] | ADC [bits] | DR [dB] | optical size | Sensor size/<br>diagonal [mm] | max. power<br>consumption |
|------------------------|----------------|---------------------|-----------------|------------|---------|--------------|-------------------------------|---------------------------|
| MU9PM-MH <sup>1)</sup> | Aptina MT9P031 | 2592 x 1944<br>5 MP | 2.2             | 8,10,12    | 70      | 1/2.5"       | 5.7 x 4.3<br>7.1              | 0.7 W                     |
| MU9PC-MH <sup>1)</sup> |                |                     |                 |            |         |              |                               |                           |
|                        | color          |                     |                 |            |         |              |                               |                           |

**Note 1:** Please replace „-MH“ with „-MBRD“ in the model name to address the board level camera

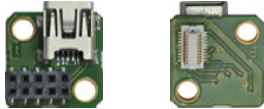
## Read out modes:

| Standard mode | Binning/skipping | Pixels      | FPS |
|---------------|------------------|-------------|-----|
| 0             | 1x1              | 2592 x 1944 | 5.8 |
| 1             | 2x2 bin          | 1296 x 972  | 17  |
| 2             | 4x4 bin          | 648 x 486   | 36  |
| 3             | 2x2 skip         | 1296 x 972  | 22  |
| 4             | 4x4 skip         | 648 x 486   | 83  |
| 5             | 6x6 skip         | 430 x 324   | 163 |
| 6             | 7x7 skip         | 368 x 376   | 200 |
| 7             | 7x7 skip/clip    | 320 x 240   | 232 |

## Interfaces, connectors, environmental:

| Description                   | Value   |
|-------------------------------|---|
| Optimum ambient temperature   | +10 to +25 °C   |
| Ambient temperature operation | -10 to +55 °C (non condensing humidity)   |
| Environment                   | Ingress Protection IP40   |
| Size, Weight                  | MU9Px-MH: Height * width * depth : 15 x 15 x 8.5 mm, 3.4 g                      |
|                               | MU9Px-MBRD: Height * width * depth : 14 x 13.2 x 5.5 mm (with connector), 1.2 g |
| Connector mounted on the PCB  | HRS DF12E(3.5)-20DP micro connector with USB 2.0 High-speed and digital I/O     |

## Accessories:

| Item-P/N   | Description                           | Illustration  |
|------------|---------------------------------------|---|
| MU-MINIUSB | Mini-USB Extension Board for MU9Px-MH |  |

## Compatibility:

Standard **Windows, Linux & MacOS** operation systems • GenICam / GenTL • Single SDK/API for all XIMEA camera models.

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## Contact:

Please visit [ximea.com](http://ximea.com) for complete product information.

E-mail our sales team at [sales@ximea.com](mailto:sales@ximea.com) for your price and further information.



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