# Allied Vision

# Manta
## G-235

- Latest Sony CMOS sensor
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

Simplify your setup of multi-camera applications

## Modular machine vision camera with GigE Vision interface

Manta G-235 with Sony IMX174 runs 50.8 frames per second at 2.4 MP resolution.

Manta is Allied Vision's most versatile GigE Vision camera series. It provides the largest choice of image sensors and its advanced feature set simplifies the setup of multi-camera applications. With its modular hardware concept, Manta offers nearly endless configuration possibilities to adapt the camera to your application.

Easy software integration with Allied Vision's Vimba Suite and compatibility to the most popular third party image-processing libraries.

See the Modular Concept for lens mount, housing variants, optical filters, case design, and other modular options. See the Customization and OEM Solutions webpage for additional options.

## Specifications

| Manta G-235 | |
|---|---|
| Interface | IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional |
| Resolution | 1936 (H) ×1216 (V) |
| Sensor | Sony IMX174 |
| Sensor type | CMOS |
| Shutter mode | Global shutter |
| Sensor size | Type 1/1.2 |
| Pixel size | 5.86 μm × 5.86 μm |

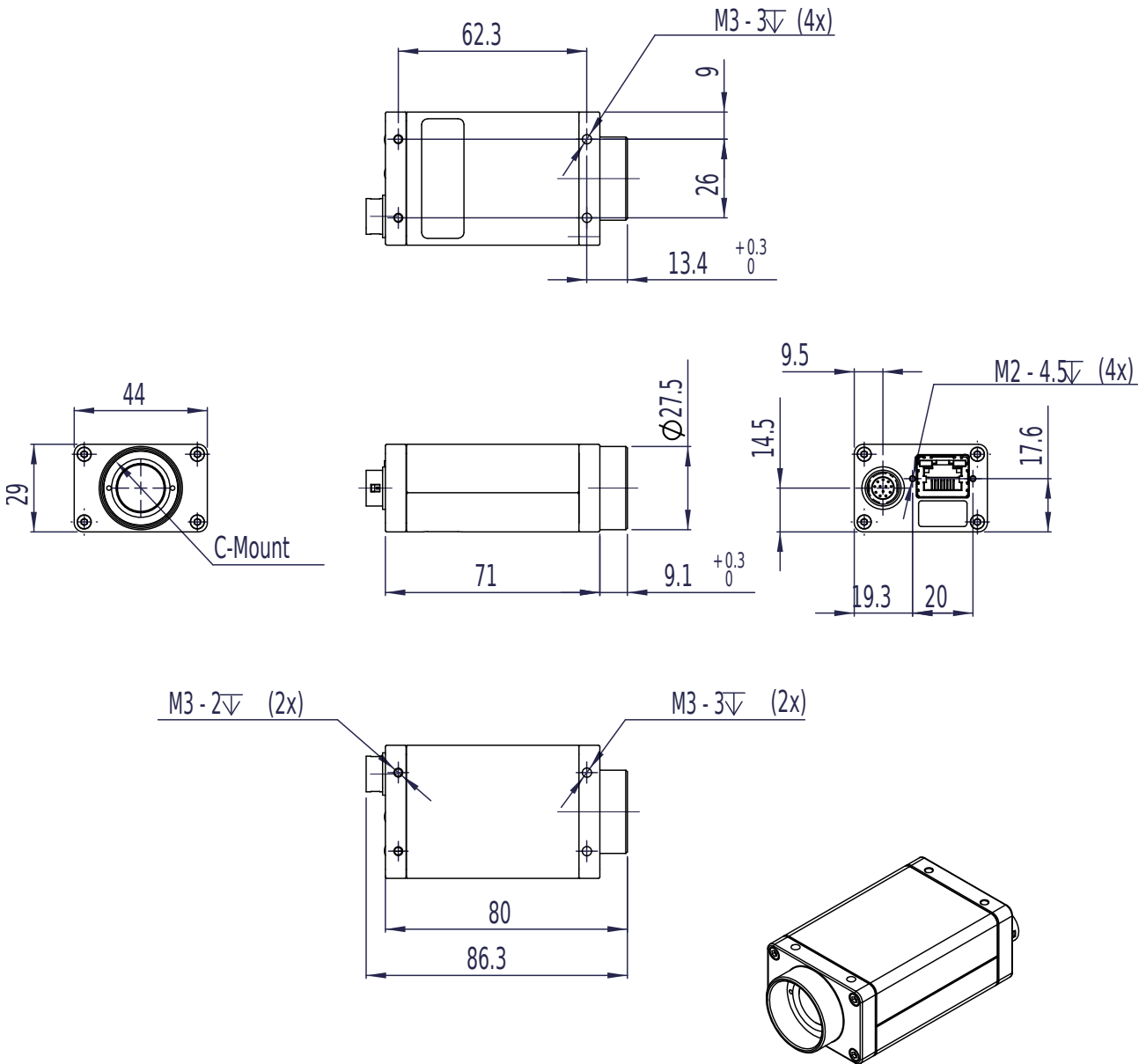| Manta G-235 | |
|---|---|
| Lens mounts (available) | C-Mount, CS-Mount |
| Max. frame rate at full resolution | 50.8 fps |
| ADC | 12 Bit |
| Image buffer (RAM) | 128 MByte |
| **Imaging performance** | |
| Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured at full resolution without optical filter. Contact Sales or AE for more information. | |
| Quantum efficiency at 529 nm | 70 % |
| Temporal dark noise | 6.2 e$^-$ |
| Saturation capacity | 32000 e$^-$ |
| Dynamic range | 73.0 dB |
| Absolute sensitivity threshold | 7.2 e$^-$ |
| **Output** | |
| Bit depth | 8/12 Bit |
| Monochrome pixel formats | Mono8, Mono12Packed, Mono12 |
| YUV color pixel formats | YUV411Packed, YUV422Packed, YUV444Packed |
| RGB color pixel formats | RGB8Packed, BGR8Packed |
| Raw pixel formats | BayerRG8, BayerRG12, BayerRG12Packed |
| **General purpose inputs/outputs (GPIOs)** | |
| Opto-isolated I/Os | 2 inputs, 2 outputs |
| RS232 | 1 |
| **Operating conditions/dimensions** | |
| Operating temperature | +5 °C to +45 °C ambient (without condensation) |
| Power requirements (DC) | 8 to 30 VDC AUX or IEEE 802.3af PoE |
| Power consumption | External power: 2.8 W at 12 VDC | Power over Ethernet: 3.3 W |
| Mass | 190 g; 200 g (PoE) |
| Body dimensions (L × W × H in mm) | 86.4 × 44 × 29 (including connectors) |
| Regulations | CE: 2014/30/EU (EMC), 2011/65/EU, including amendment 2015/863/EU (RoHS); FCC Class B; CAN ICES-3 (B) |

# Quantum efficiency
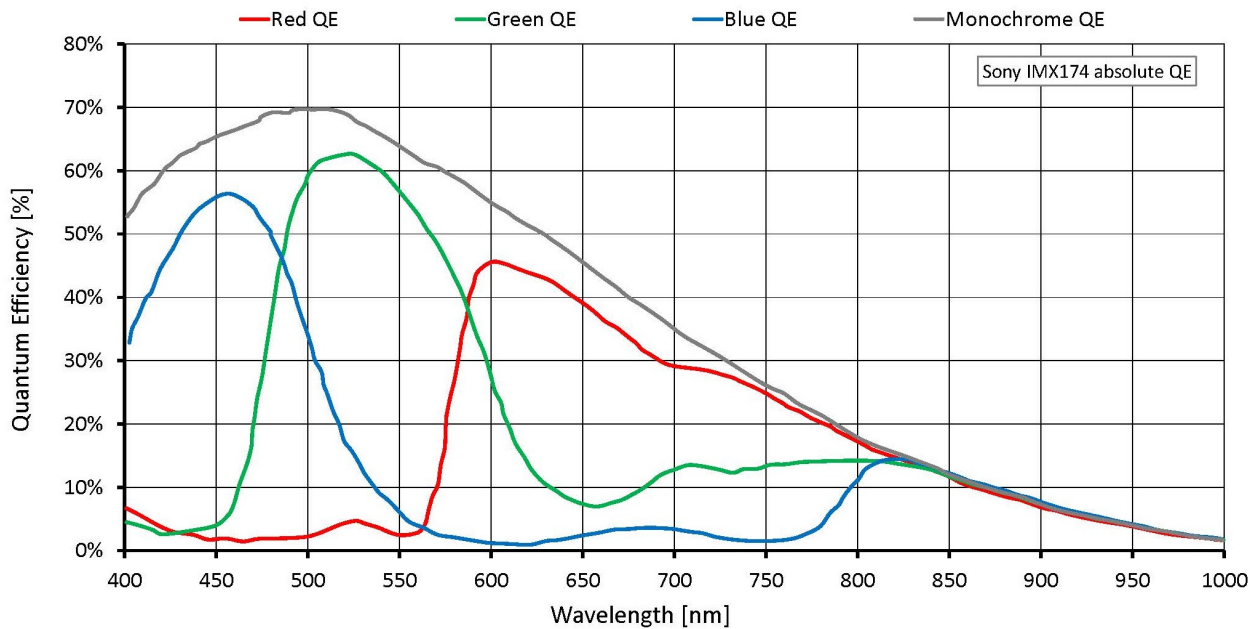


# Features

Image optimization features:

- Auto gain (manual gain control: 0 to 40 dB; 0.1 dB increments)
- Auto exposure (exposure time control varies by pixel format)
- Auto white balance (G-235C only)
- Binning
- Black level (offset)
- Color correction, hue, saturation (G-235C only)
- Decimation
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features
- Reverse X/Y

# Allied Vision

Camera control features:

- Auto-iris (video type)

- Event channel

- Image chunk data

- IEEE 1588 Precision Time Protocol

- Storable user sets

- StreamBytesPerSecond (easy bandwidth control)

- Stream hold

- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO

- Temperature monitoring (main board)

- Trigger over Ethernet Action Commands

# Technical drawing

M3 - 3 (4x)

62.3

9

26

13.4 +0.3/0

44

29

⌀27.5

C-Mount

71

9.1 +0.3/0

9.5

14.5

M2 - 4.5 (4x)

17.6

19.3

20

M3 - 2 (2x)

M3 - 3 (2x)

80

86.3

# Applications

Manta G-235 is ideal for a wide range of applications including:

- Machine Vision
- Broadcast analysis requiring Full HD such as sports analytics

- Industrial inspection

- Security and surveillance

- Intelligent traffic solutions (ITS), traffic (traffic monitoring, speed enforcement, toll collection)

- Low light or high sensitivity conditions

- Outdoor applications with dynamic lighting situations