

Manta

G-046



- Sony ICX415 CCD sensor
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

GigE Vision camera with XGA resolution

Manta G-046 is a very affordable GigE Vision camera with XGA resolution. Manta G-046 is offered in both monochrome and color models. It incorporates the high quality Type 1/2 (8.0 mm diagonal) Sony ICX415 CCD sensor. At full resolution, this camera runs 67.5 frames per second. With a smaller region of interest, higher frame rates are possible.

Manta is one of Allied Vision's versatile GigE Vision cameras with a wide range of features. Particular highlights are the three look-up tables, sophisticated color correction capabilities, a robust metal housing, and many modular options. By default monochrome models ship with B 270 ASG protection glass and color models ship with a Type Hoya C-5000 IR cut filter.

Benefits and features

- Monochrome (G-046B) and color (G-046C) models
- GigE Vision interface with Power over Ethernet option
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- Supports cable lengths up to 100 meters (CAT-6 recommended)
- Comprehensive I/O functionality for simplified system integration
- Popular C-Mount lens mount
- Easy camera mounting via standard M3 threads on top and bottom of housing or optional tripod adapter
- Easy software integration with Allied Vision's [Vimba Suite](#) and compatibility to the most popular [third party image-processing libraries](#).

Hardware options

- Various housing options: Select between standard housing, angled-head, or board level versions
- Various lens mounts: Select between C-Mount, CS-Mount, or M12-Mount (adapter)



- Various optical filters: Select between B 270 ASG protection glass and filter types: Jenofilt 217 IR cut filter, Hoya C-5000 IR cut filter, RG715 IR pass filter, or RG830 IR pass filter.
- Available with Power over Ethernet compliant interface
- Available with white medical design

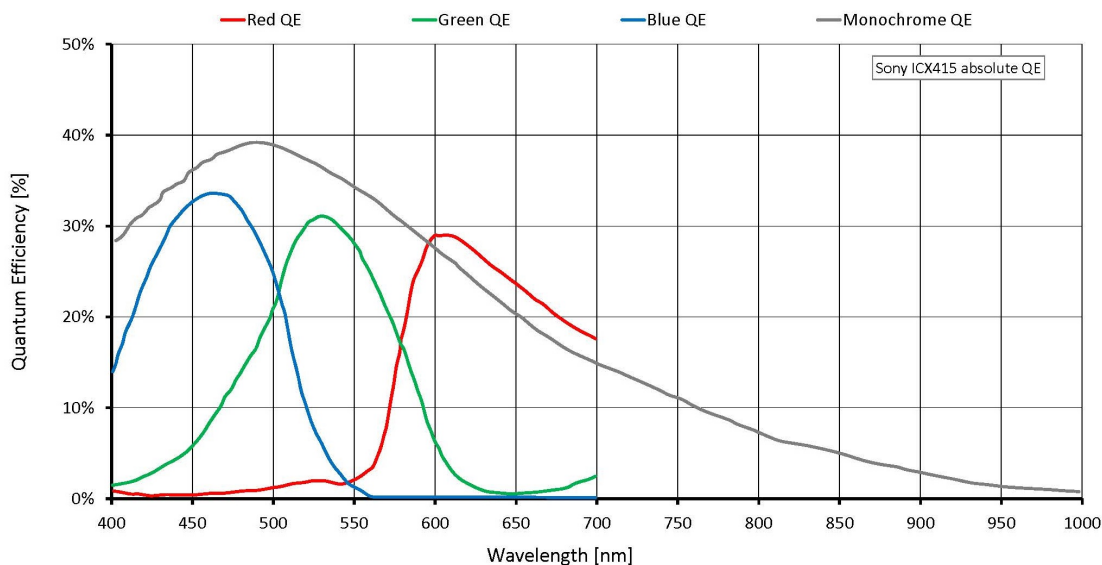
See the [Modular Concept](#) for lens mount, housing variants, optical filters, case design, and other modular options. See the [Customization and OEM Solutions](#) webpage for additional options.

Specifications

| Manta | G-046 |
|--|--|
| Interface | IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional |
| Resolution | 780 (H) × 580 (V) |
| Sensor | Sony ICX415 |
| Sensor type | CCD Progressive |
| Shutter mode | Global shutter |
| Sensor size | Type 1/2 |
| Pixel size | 8.3 μm × 8.3 μm |
| Lens mounts (available) | C-Mount, CS-Mount, M12-Mount |
| Max. frame rate at full resolution | 67.5 fps |
| ADC | 12 Bit |
| Image buffer (RAM) | 32 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 | 37 % |
| Temporal dark noise | 21.1 e ⁻ |
| Saturation capacity | 15700 e ⁻ |
| Dynamic range | 57.2 dB |
| Absolute sensitivity threshold | 21.6 e ⁻ |
| Output | |
| Bit depth | 8/12 Bit |
| Monochrome pixel formats | Mono8, Mono12, Mono12Packed |
| YUV color pixel formats | YUV411Packed, YUV422Packed, YUV444Packed |
| RGB color pixel formats | RGB8Packed, BGR8Packed, RGBA8Packed, BGRA8Packed |
| Raw pixel formats | BayerRG8, BayerRG12Packed, BayerRG12 |
| General purpose inputs/outputs (GPIOs) | |
| Opto-isolated I/Os | 2 inputs, 2 outputs |

| Manta | G-046 |
|-----------------------------------|---|
| 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: 3.6 W at 12 VDC Power over Ethernet: 4.2 W |
| Mass | 200 g; 210 g (PoE models) |
| 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 31 dB, 1 dB increments)
- Auto exposure (26 μ s to 60 s, 1 μ s increments)
- Auto white balance (G-046C only)
- Binning
- Black level (offset)

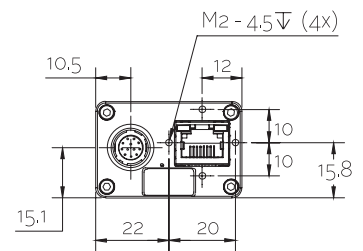


- Color correction, hue, saturation (G-046C only)
- Decimation
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features
- ReverseX (G-046B only)

Camera control features:

- Auto-iris (video type)
- Event channel
- Image chunk data
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO

Technical drawing





Applications

Manta G-046 is ideal for a wide range of applications including:

- Applications which require high sensitivity (low light)
- Semiconductor inspection
- Pharmaceutical inspection
- Logistics
- Intelligent traffic solutions (ITS)