

Manta

G-031



- Versatile VGA camera
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

VGA machine vision camera with GigE Vision compliant interface

Manta G-031 is a fast GigE Vision camera. Manta G-031 is offered in both monochrome and color models. It incorporates the high quality Type 1/4 (4.5 mm diagonal) Sony ICX618 CCD sensor. The EXview HAD CCD sensor is very sensitive both in the visible spectrum and in the near-infrared spectrum. At full resolution, this camera runs 125.2 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-031B) and color (G-031C) 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

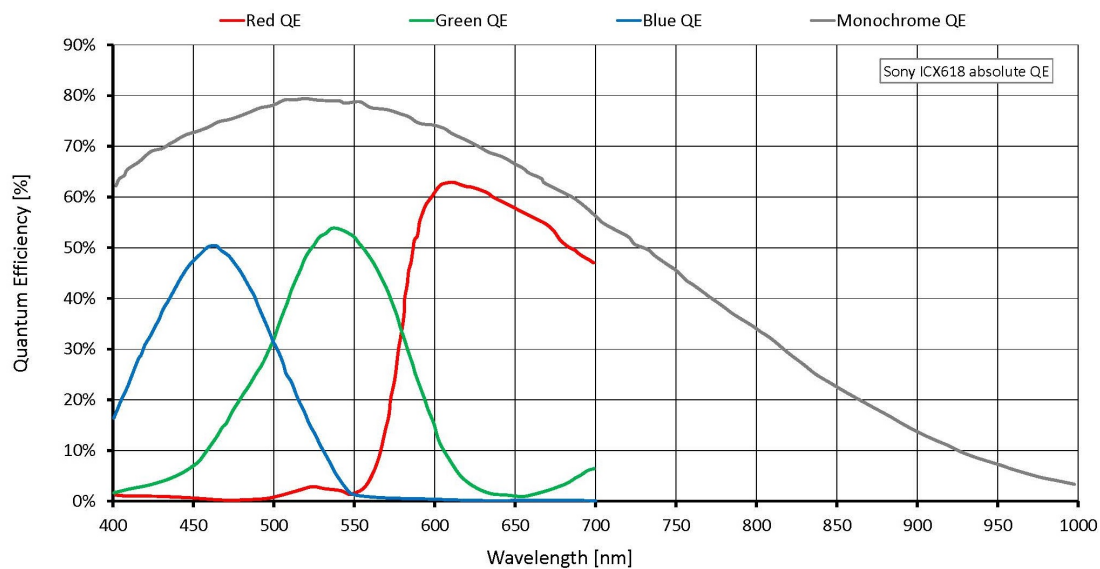
See the [Modular Concept](#) for lens mount, housing variants, optical filters, case design, and other modular options. See the [Customization and OEM Solutions](#) webpage for additional options.

Specifications

Manta	G-031
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	656 (H) × 492 (V)
Sensor	Sony ICX618
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 1/4
Pixel size	5.6 μm × 5.6 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
Max. frame rate at full resolution	125.2 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	71 %
Temporal dark noise	12.9 e ⁻
Saturation capacity	17900 e ⁻
Dynamic range	62.4 dB
Absolute sensitivity threshold	13.5 e ⁻
Output	
Bit depth	8/12 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed

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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
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: 3.7 W at 12 VDC Power over Ethernet: 4.3 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

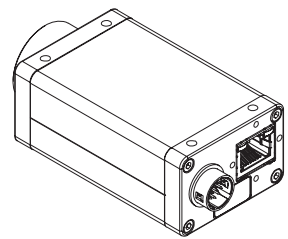
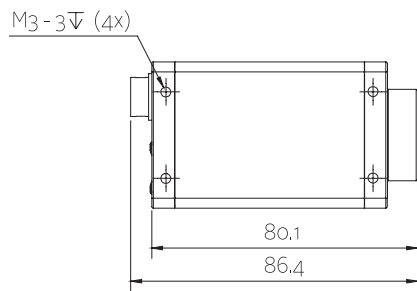
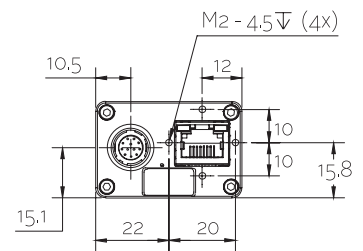
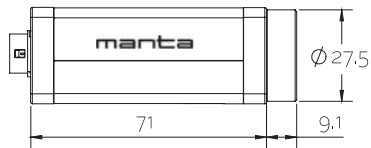
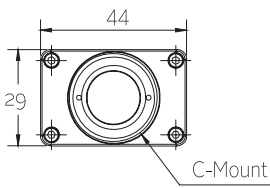
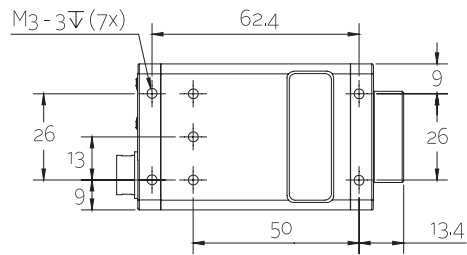
Image optimization features:

- Auto gain (manual gain control: 0 to 32 dB; 1 dB increments)
- Auto exposure (58 μ s to 60 s; 1 μ s increments)
- Auto white balance (G-031C only)
- Binning (Sum)
- Black level (offset)
- Color correction, hue, saturation (G-031C only)
- Decimation
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features
- ReverseX (G-031B 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-031 is ideal for a wide range of applications including:

- Machine vision
- Robotics
- Semiconductor inspection
- Logistics
- Security and Surveillance
- Pharmaceutical industry
- Food inspection
- Intelligent traffic solutions (ITS)