

# Manta

## G-125



- Sony ICX445 CCD sensor
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

## GigE Vision camera with Sony ICX445 EXview HAD sensor

Manta G-125 is a low cost GigE Vision camera. Manta G-125 is offered in both monochrome and color models. It incorporates the high quality Type 1/3 (6.0 mm diagonal) Sony ICX445 CCD sensor with EXview HAD technology. At full resolution, this camera runs 31.0 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 Hoya C-5000 IR cut filter.

### Benefits and features

- Monochrome (G-125B) and color (G-125C) 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-5e or CAT-6)
- 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 SDK](#) 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, Jenofilt 217 IR cut filter, Hoya C-5000 IR cut filter, RG715 type IR pass filter, or RG830 type IR pass filter
- Available with Power over Ethernet (PoE) compliant interface
- Available with white medical design

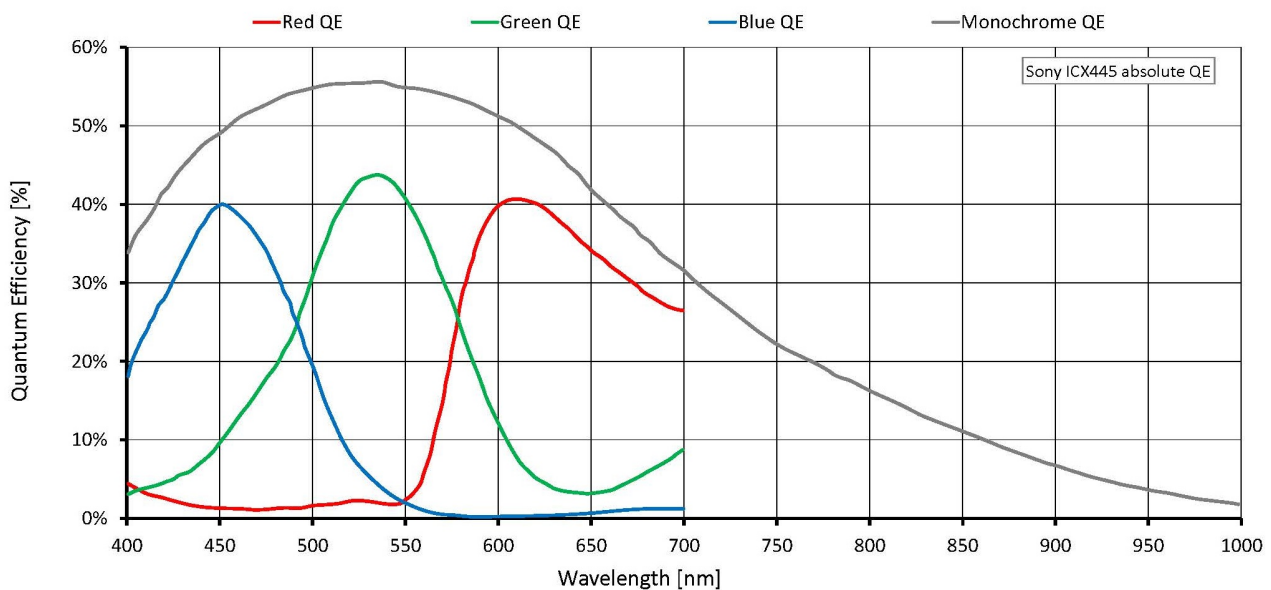
See the [Modular Concept](#) for lens mount, housing variants, optical filters, case design, and other modular options. See the [Customization and OEM Solutions](#) webpage for additional options.

## Specifications

Manta	G-125
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	1292 (H) × 964 (V)
Sensor	Sony ICX445
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 1/3
Pixel size	3.75 $\mu\text{m}$ × 3.75 $\mu\text{m}$
Lens mounts (available)	C-Mount, CS-Mount, M12-Mount
Max. frame rate at full resolution	31.0 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	55 %
Temporal dark noise	7.1 $\text{e}^-$
Saturation capacity	7100 $\text{e}^-$
Dynamic range	59.4 dB
Absolute sensitivity threshold	7.6 $\text{e}^-$
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

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RS232	1
<b>Operating conditions/dimensions</b>	
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 (21  $\mu$ s to 60 s; 1  $\mu$ s increments)
- Auto white balance (G-125C only)
- Binning
- Black level (offset)

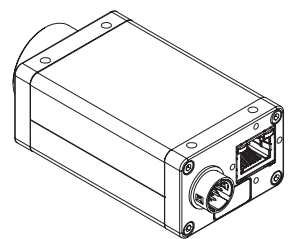
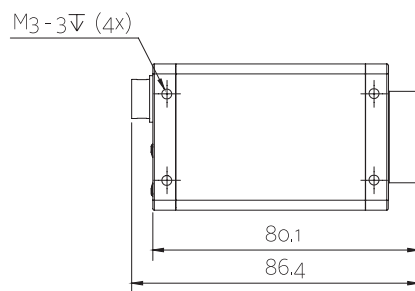
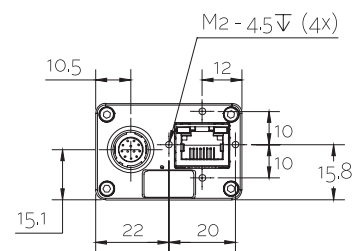
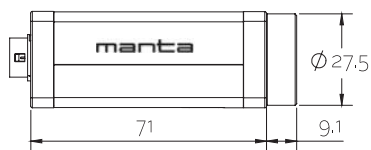
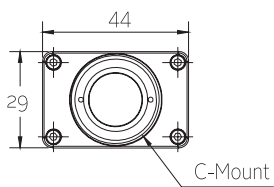
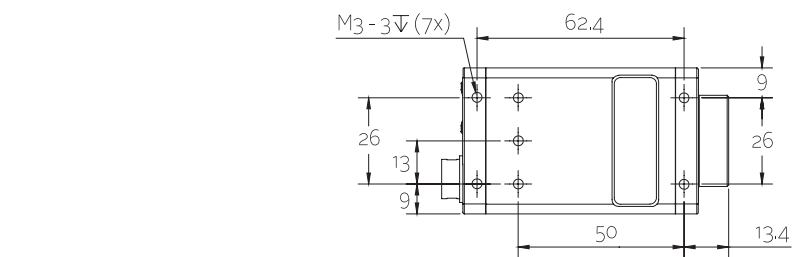


- Color correction, hue, saturation (G-125C only)
- Decimation
- Gamma correction
- Three look-up tables (LUTs)
- Region of interest (ROI), separate ROI for auto features
- ReverseX (G-125B only)

#### 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-125 is ideal for a wide range of applications including:

- Applications which require high sensitivity (low light)
- Quality control
- Intelligent traffic solutions (ITS)
- Semiconductor inspection
- 3D inspection
- Food inspection