

## Manta

### G-033



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

### VGA resolution GigE Vision camera with robust housing

Manta G-033 is a VGA GigE Vision camera. Manta G-033 is offered in both monochrome and color models. It incorporates the high quality Type 1/2 (8.0 mm diagonal) Sony ICX414 CCD sensor. At full resolution, this camera runs 88.7 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 protection glass B 270 (ASG) and color models ship with an IRC Hoya C-5000 IR cut filter.

#### Benefits and features:

- Monochrome (G-033B) and color (G-033C) 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](#).

#### Options:

- Available with Power over Ethernet (PoE) compliant interface
- Available with CS-Mount or M12-Mount adapter
- Available with Protection glass B 270 (ASG), IRC type Jenofilt 217 (IR cut filter), IRC Hoya C-5000 (IR cut filter), IRP RG715 (IR pass filter), IRP RG830 (IR pass filter)
- Available with various angled-head housings or board level version



- 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-033
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	656 (H) × 492 (V)
Sensor	Sony ICX414
Sensor type	CCD Progressive
Sensor size	Type 1/2
Pixel size	9.9 μm × 9.9 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	88.7 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	38 %
Temporal dark noise	18.4 e <sup>-</sup>
Saturation capacity	22400 e <sup>-</sup>
Dynamic range	61.5 dB
Absolute sensitivity threshold	19.0 e <sup>-</sup>

### 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, BayerRG12, BayerRG12Packed

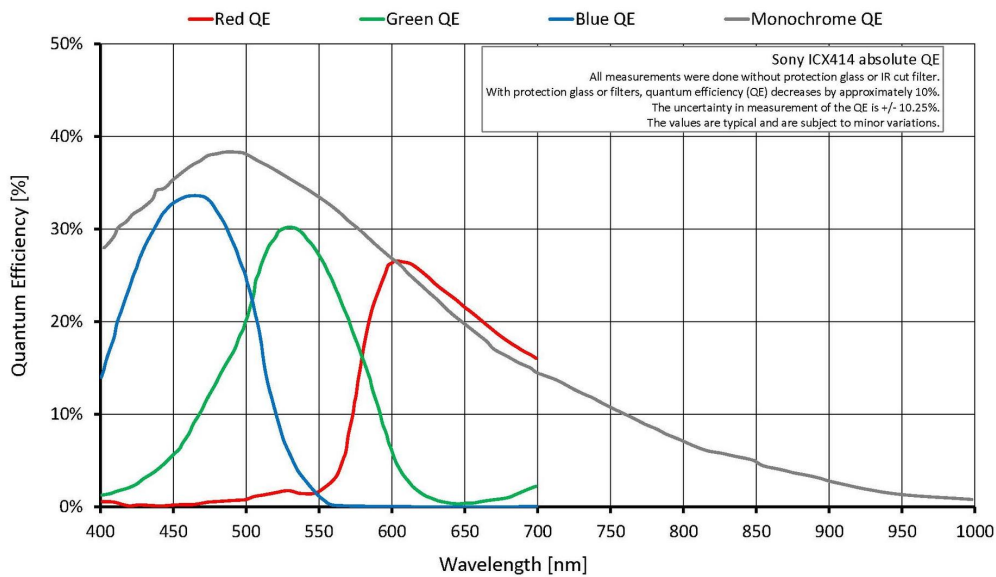
### General purpose inputs/outputs (GPIOs)

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 802.3af PoE

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Power consumption	3.6 W at 12 VDC; 4.2 W PoE
Mass	200 g; 210 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-003



## Features

### Image optimization features:

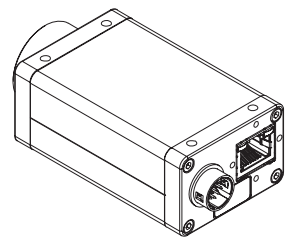
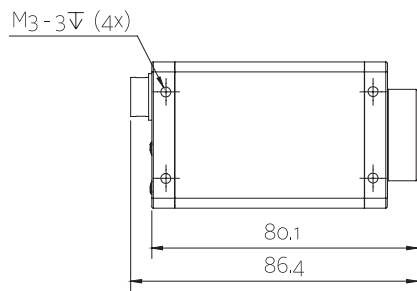
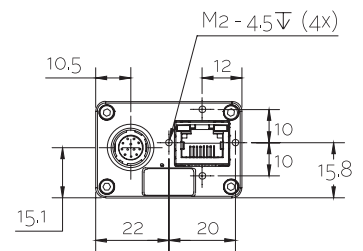
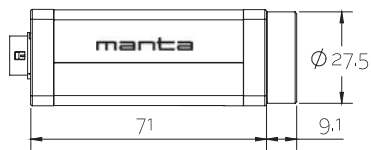
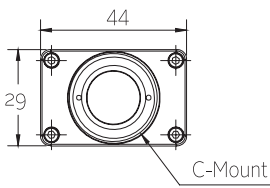
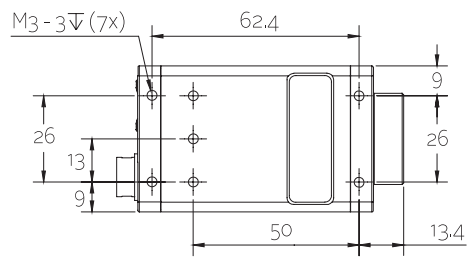
- Auto gain (manual gain control: 0 to 35 dB; 1 dB increments)
- Auto exposure (26  $\mu$ s to 60 s; 1  $\mu$ s increments)
- Auto white balance (G-033C only)
- Binning (Sum)
- Black level (offset)
- Color correction, hue, saturation (G-033C only)
- Decimation
- Gamma correction
- Three look-up tables (LUTs)
- Region of interest (ROI), separate ROI for auto features
- ReverseX (G-033B only)



## Camera control features:

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

## Technical drawing





## Applications

Manta G-033 is ideal for a wide range of applications including:

- Machine vision
- Industrial inspection and automation
- Semiconductor inspection
- Logistics
- Intelligent traffic solutions (ITS)