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Allied Vision

Manta

G-504



- 9.2 fps at full resolution
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

5 Megapixel GigE Vision camera with Sony ICX655 CCD sensor

Manta G-504 is a machine vision camera that incorporates the high quality Type 2/3 (11.016 mm diagonal) Sony ICX655 CCD sensor. At full resolution, this camera runs at 9.2 frames per second. With a smaller region of interest, higher frame rates are possible. The 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-504B) and color (G-504C) 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

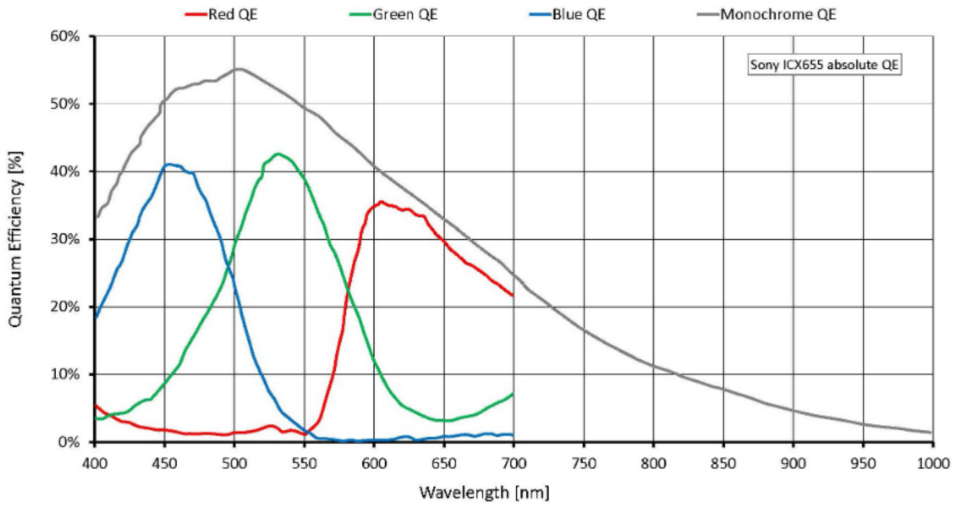
See the Modular Concept for lens mount, housing options, optical filters, case design, and other modular options. See the Customization and OEM Solutions webpage for additional options.

Specifications

Manta	G-504
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	2452 (H) × 2056 (V)
Sensor	Sony ICX655
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 2/3
Pixel size	3.45 µm × 3.45 µm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
Max. frame rate at full resolution	9.2 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	57 %
Temporal dark noise	13.5 e^-
Saturation capacity	6900 e^-
Dynamic range	53.9 dB
Absolute sensitivity threshold	14.0 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	BayerGB8, BayerGB12, BayerGB12Packed
General purpose inputs/outputs (GPIOs)	
Opto-isolated I/Os	2 inputs, 2 outputs
RS232	1
Operating conditions/dimensions	

Manta	G-504
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: 3.9 W at 12 VDC | Power over Ethernet: 4.6 W
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-3 (B)

Quantum efficiency



Features

Image optimization features:

- Auto gain (manual gain control: 0 to 32 dB; 1 dB increments)
- Auto exposure (38 µs to 60 s; 1 µs increments)
- Auto white balance (G-504C only)
- Binning
- Black level (offset)
- Color correction, hue, saturation (G-504C only)
- Decimation

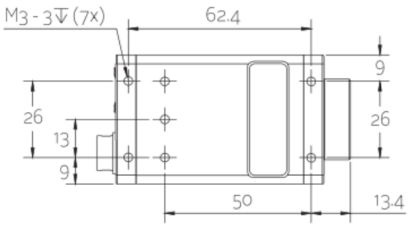
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features
- ReverseX (monochrome models only)

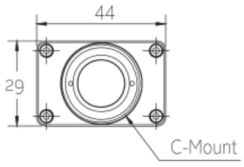
Camera control features:

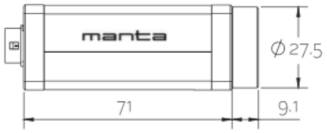
- Auto-iris (video type)
- Event channel
- Image chunk data
- Storable user sets
- StreamBytesPerSecond (easy bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO

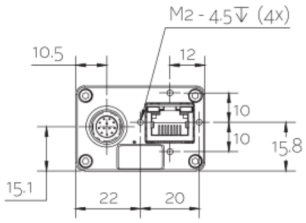
Allied Vision

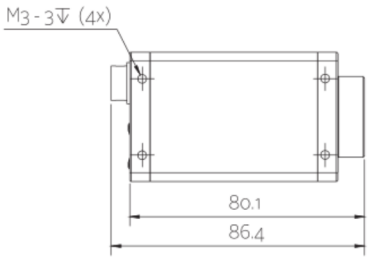
Technical drawing

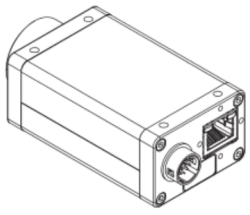












Applications

Manta G-504 is ideal for a wide range of applications including:

- Industrial inspection with high resolution
- Automation
- Logistics
- Science and research
- Healthcare and medical
- Intelligent traffic solutions (ITS)

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