

Manta

G-145B NIR



- NIR-enhanced
- Power over Ethernet option
- Angled-head and board level variants
- Video-iris lens control

NIR optimized GigE camera with Sony ICX285 CCD sensor

Manta G-145B NIR is a near-infrared optimized camera with the popular Type 2/3 (11.0 mm diagonal) Sony ICX285 CCD sensor with EXview HAD technology. Besides the enhanced near infrared (NIR) sensitivity, it is distinguished by an excellent anti-blooming. This camera provides three modes with higher frame rates or higher NIR sensitivity. These modes are switchable during operation. On request, board level variants with separate sensor head (up to 200 mm distance to camera main board) are available. By default the Manta G-145B NIR ships with no optical filter.

Benefits and features

- 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

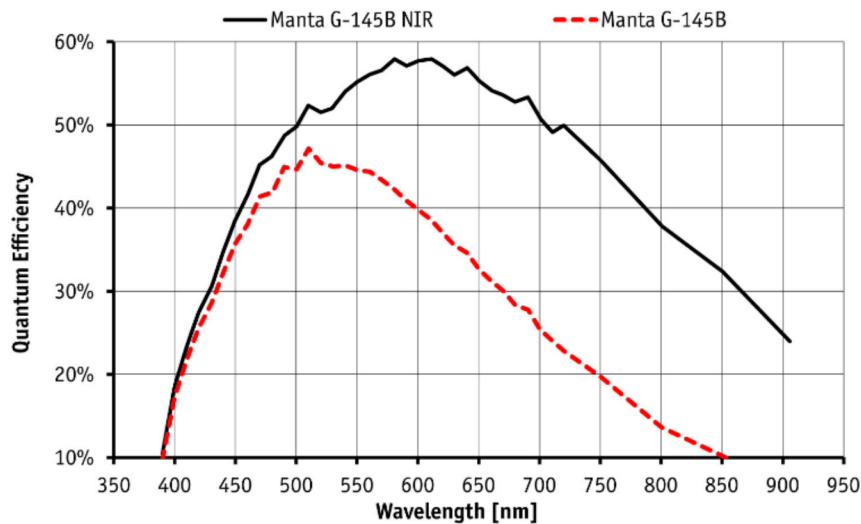
See the [Modular Concept](#) for lens mount, housing variants, optical filters, case design, and other modular options. See the [Customization and OEM Solutions](#) webpage for additional options.

Specifications

Manta	G-145B NIR
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional
Resolution	1388 (H) × 1038 (V)
Sensor	Sony ICX285
Sensor type	CCD Progressive
Shutter mode	Global shutter
Sensor size	Type 2/3
Pixel size	6.45 μm × 6.45 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount
Max. frame rate at full resolution	15.0 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 NIR models measured at full resolution without optical filter. Contact Sales or AE for more information.	
Quantum efficiency at 529 nm	54 %
Quantum efficiency at 850 nm	22 %
Temporal dark noise	8.8 e ⁻
Saturation capacity	17900 e ⁻
Dynamic range	65.6 dB
Absolute sensitivity threshold	9.4 e ⁻
Output	
Bit depth	8/12 Bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
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: 4.2 W at 12 VDC Power over Ethernet: 4.9 W
Mass	200 g; 210 g (PoE)

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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:

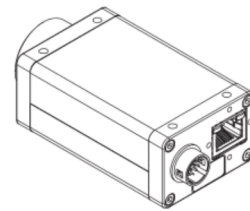
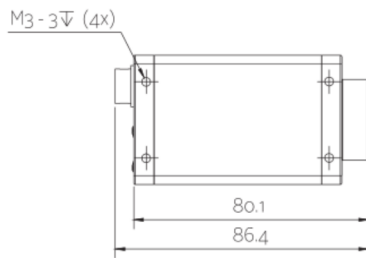
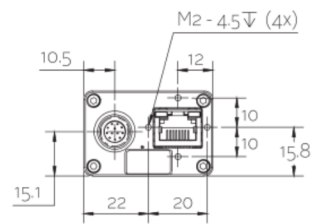
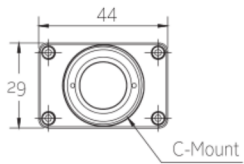
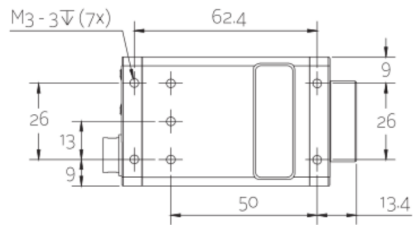
- Auto gain (manual gain control: 0 to 33 dB; 1 dB increments)
- Auto exposure (manual exposure control: $\approx 20 \mu\text{s}$ to 60 s, depending on NIR mode)
- Binning
- Black level (offset)
- Decimation
- Gamma correction
- Three look-up tables
- Region of interest, separate region for auto features
- Three operating modes with higher NIR sensitivity or higher frame rates
- ReverseX



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-145B NIR is ideal for a wide range of applications including:

- Machine vision, visible and NIR spectrum
- Applications which require switching NIR sensitivity on/off
- Food inspection
- Medical and healthcare
- Microscopy
- Intelligent traffic solutions (ITS) and Traffic monitoring