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 an 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

<table>
<thead>
<tr>
<th>Manta</th>
<th>G-145B NIR</th>
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</thead>
<tbody>
<tr>
<td>Interface</td>
<td>IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE) optional</td>
</tr>
<tr>
<td>Resolution</td>
<td>1388 (H) × 1038 (V)</td>
</tr>
<tr>
<td>Sensor</td>
<td>Sony ICX285</td>
</tr>
<tr>
<td>Sensor type</td>
<td>CCD Progressive</td>
</tr>
<tr>
<td>Shutter mode</td>
<td>Global shutter</td>
</tr>
<tr>
<td>Sensor size</td>
<td>Type 2/3</td>
</tr>
<tr>
<td>Pixel size</td>
<td>6.45 µm × 6.45 µm</td>
</tr>
<tr>
<td>Lens mounts (available)</td>
<td>C-Mount, CS-Mount, S-Mount</td>
</tr>
<tr>
<td>Max. frame rate at full resolution</td>
<td>15.0 fps</td>
</tr>
<tr>
<td>ADC</td>
<td>12 Bit</td>
</tr>
<tr>
<td>Image buffer (RAM)</td>
<td>32 MByte</td>
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</table>

### 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<sup>-</sup>
- Saturation capacity: 17900 e<sup>-</sup>
- Dynamic range: 65.6 dB
- Absolute sensitivity threshold: 9.4 e<sup>-</sup>

### 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)
Manta G-145B NIR

**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)

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**Quantum efficiency**

![Quantum efficiency graph]

**Features**

**Image optimization features:**

- Auto gain (manual gain control: 0 to 33 dB; 1 dB increments)
- Auto exposure (manual exposure control: ≈ 20 µs 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
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