Manta G-145-30fps

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

GigE Vision camera with Sony ICX285 CCD sensor

Manta G-145-30fps is the high-speed version of the Manta G-145. Manta G-145-30fps is offered in both monochrome and color models. This machine vision camera incorporates the high quality Type 2/3 (11.0 mm diagonal) Sony ICX285 CCD sensor with EXview HAD technology. At full resolution, this camera runs 30.1 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-145B-30fps) and color (G-145C-30fps) 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 IR pass filter, or RG830 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

<table>
<thead>
<tr>
<th>Manta</th>
<th>G-145-30fps</th>
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<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 ( \mu \text{m} ) × 6.45 ( \mu \text{m} )</td>
</tr>
<tr>
<td>Lens mounts (available)</td>
<td>C-Mount, CS-Mount, M12-Mount</td>
</tr>
<tr>
<td>Max. frame rate at full resolution</td>
<td>30.1 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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**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 | 54 % |
| Temporal dark noise         | 11.5 e⁻ |
| Saturation capacity         | 16300 e⁻ |
| Dynamic range               | 62.6 dB |
| Absolute sensitivity threshold | 12.0 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 | BayerRG8, BayerRG12Packed, BayerRG12 |

**General purpose inputs/outputs (GPIOs)**

<p>| Opto-isolated I/Os | 2 inputs, 2 outputs |</p>
<table>
<thead>
<tr>
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<th>G-145-30fps</th>
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<tbody>
<tr>
<td>RS232</td>
<td>1</td>
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**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
- **Power consumption**: 4.5 W at 12 VDC; 5.3 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 (B)

**Quantum efficiency**

```
red QE  green QE  blue QE  monochrome QE
```

**Features**

Image optimization features:

- Auto gain (manual gain control: 0 to 33 dB; 1 dB increments)
- Auto exposure (38 µs to 60 s; 1 µs increments)
- Auto white balance (G-145C-30fps only)
- Binning
- Black level (offset)
- Color correction, hue, saturation (G-145C-30fps only)
• Decimation
• Gamma correction
• Three look-up tables (LUTs)
• Region of interest (ROI), separate ROI for auto features
• ReverseX (G-145B-30fps 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-145-30fps is ideal for a wide range of applications including:

- Machine vision
- Science and research
- Medical and healthcare
- Ophthalmology
- Intelligent traffic solutions (ITS) and Traffic monitoring

Application case studies:

- **Safe Sex Starts With Virtual Pillow Fight**
  Interactive billboard using Manta camera promotes “Designers Against AIDS” charity by inviting passers-by to join pillow fight with Belgian top model Hannelore Knuts.