# Specifications

| INTERFACE AND POWER INFORMATION | |
|---|---|
| Digital Interface | 1000BASE-T GigE, M12 X-coded, PoE |
| GPIO Interface | 8 pin M8 connector |
| Opto-Isolated I/O Ports | 1 input (2.5V-24V and 10.5V-24V), 1 output |
| Non-Isolated I/O Ports | 2 bi-directional |
| Power Requirement | PoE+ (IEEE 802.3at) or 18-24 V ±5% through GPIO |
| Power Consumption | $P_{avg}$ <12W, <30W peak power |

| SENSOR PROPERTIES | |
|---|---|
| Sensor Model | Sony DepthSense IMX556PLR CMOS |
| Shutter Type | Global |
| Sensor Size | 8 mm (Type 1/2″) |
| Resolution | 640 x 480 px, 0.3 MP |
| Pixel Size | 10.0 µm (H) x 10.0 µm (V) |
| Framerate | 30 FPS @ 0.3 MP (for all operating modes) |

| PHYSICAL PROPERTIES | |
|---|---|
| Dimensions | 60 x 60 x 77.5 mm |
| Weight | 398 g |
| Ingress Protection | IP67 (For IP67 protection Helios2 must be used with IP67 cables) |
| Ambient Light Filter | Yes, integrated on-camera |
| Lens Field of View | 67° x 51° (nominal) |
| Illumination | 4 x VCSEL laser diodes, Class 1, @ 850nm |

| STANDARD AND CERTIFICATIONS | |
|---|---|
| Standard | GigE Vision v2.0, GenICam 3D |
| Compliance | CE, KC, FCC, RoHS, REACH, WEEE |
| Laser Product Class | Class 1. Conforms to the following:<br>IEC 60825-1:2014,<br>EN 60825-1:2014+A11:2021,<br>CAN/CSA-E60825-1:15 |
| Operating Temperature | -20° to 50°C (Case Temperature) |
| Humidity | Operating: 20% ~ 80%, relative, non-condensing |
| Shock and Vibration | DIN EN 60068-2-27, DIN EN 60068-2-64 |
| Industrial EMC Immunity | DIN EN 61000-6-2 ESD 4kV |
| OS Support | Windows and Linux |
| Software Support | Arena SDK, C++, C, C#, Python |
| Warranty | 3 year |

| PIXEL FORMATS | |
|---|---|
| Range Data | |
| Coord3D_ABCY16 | 4-ch point cloud XYZ + Intensity, 16 bits per channel, unsigned |
| Coord3D_ABC16 | 3-ch point cloud XYZ, 16 bits per channel, unsigned |
| Coord3D_C16 | Depth map Z plane, 16 bits, unsigned |
| Intensity Image | |
| Mono8 | 8 bit per pixel monochrome raw image |
| Mono12Packed | 12 bit per pixel monochrome raw image |
| Mono12p | 12 bit per pixel in bit stream, monochrome raw image |
| Mono16 | 16 bit per pixel monochrome raw image |
| Confidence Data | |
| Confidence16 | Confidence16Confidence map, 16 bits |

| IMAGING PROPERTIES | |
|---|---|
| Exposure Control | Manual, 3 settings: 62.5 µs, 250 µs or 1000 µs |
| Gain Control | Manual, 2 settings: High or Low |
| Synchronization | Software trigger, hardware trigger, PTP (IEEE 1588) |
| Output Format | Binary .PLY file (via Arena SDK) |

Intrinsic parameters available

| CAMERA FEATURES | |
|---|---|
| User Sets | 1 default and 2 custom user set |
| Chunk Data | Image, CRC, timestamp, line status, pixel format, width/height, offset X/Y, pixel dynamic range min/max |
| Working Distance | 0.3 m to 8.33 m |
| Operating Distance Modes | 6 Modes: (1) 1250 mm, (2) 3000 mm, (3) 4000 mm, (4) 5000 mm, (5) 6000 mm, (6) 8333 mm |
| Accuracy | See Performance Tab |
| Precision (Depth Noise) | See Performance Tab |
| Communication Channels | 5 Channels. Allows users to operate up to 5 Helios2 cameras without interference between cameras. (Cross compatible with HTW003S-001, HTP003S-001, HLT003S-001) |
| Flying Pixel Filter | Yes |