

# Lucid Vision Helios2+ Specifications

## INTERFACE AND POWER INFORMATION

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Digital Interface	1000BASE-T GigE, M12 X-coded
GPIO Interface	8 pin M8 connector
Opto-Isolated I/O Ports	1 input, 1 output
Non-Isolated I/O Ports	2 bi-directional
Power Requirement	18-24 V through GPIO
Power Consumption	12-24Vdc, $P_{avg} < 10W$ , 2.8A peak pulse current

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## SENSOR PROPERTIES

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Sensor Model	Sony DepthSense IMX556PLR CMOS
Shutter Type	Global
Sensor Size	8 mm (Type 1/2")

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Resolution	640 x 480 px, 0.3 MP
Pixel Size	10.0 $\mu\text{m}$ (H) x 10.0 $\mu\text{m}$ (V)
Framerate	30 FPS @ 0.3 MP (Near Mode: up to 1.5m) 15 FPS @ 0.3 MP (Far Mode: up to 6m)

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## PHYSICAL PROPERTIES

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Dimensions	55 x 55 x 77.7 mm
Lens Mount	Integrated lens with 6mm focal length (not user changeable)
Weight	254 g
Lens Field of View	59° x 45° (nominal)
Illumination	4 x VCSEL laser diodes @ 850nm

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## STANDARD AND CERTIFICATIONS

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Standard	GigE Vision v2.0, GenICam 3D
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Compliance	CE, FCC, RoHS, REACH, WEEE, Eye Safety Class 1 IEC/EN 60825-1:2014
Operating Temperature	-10° to 60°C (Case Temperature)
Shock and Vibration	DIN EN 60068-2-27, DIN EN 60068-2-64
OS Support	Windows and Linux
Software Support	Arena SDK, C++, C, C#, Python

## PIXEL FORMATS

Range Data	
Coord3D_ABCY16	4-ch point cloud XYZ + Intensity, 16 bits per channel
Coord3D_ABC16	3-ch point cloud XYZ, 16 bits per channel
Coord3D_C16	Depth map Z plane, 16 bits
Intensity Image	

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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

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#### Confidence Data

Confidence16      Confidence map, 16 bits

#### IMAGING PROPERTIES

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Exposure Control	Manual, 2 settings: 250 $\mu$ s or 1000 $\mu$ s
Gain Control	Manual, 2 settings: High or Low
Synchronization	Software trigger, hardware trigger, PTP (IEEE 1588)
Output Format	Binary .PLY file (via Arena SDK)

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#### CAMERA FEATURES

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User Sets	1 default and 2 custom user set
Working Ranges	Near mode: up to 1.5m
	Far mode: up to 6m
Accuracy	Near Mode (0.3 – 1.5m): $\pm 5$ mm
	Far Mode (0.3 – 1.5m): $\pm 5$ mm
	(0.3 – 6.0m): $\pm 10$ mm
Precision	Standard deviation less than 2mm at 1m
Communication Channels	5 Channels. Allows users to operate up to 5 Helios cameras without interference between cameras.

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