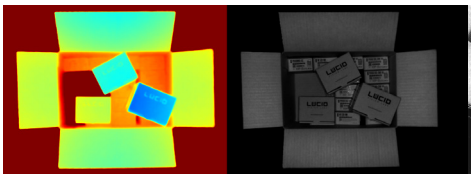
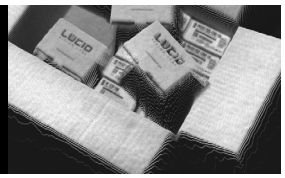
Helios2 Wide

Time-Of-Flight (ToF) Camera with Sony DepthSense

- **High Accuracy with Submillimeter Precision**
- **IP67 Protection, Industrial Immunity**
- **Sony DepthSense IMX556 Sensor, 640 x 480 at 30FPS**
- **8.3 m Working Distance**
- **M12 and M8 Connectors**
- **Wide Field of View 108° x 78°**



Depth Map and Intensity



3D Point Cloud

Model	MP	Resolution	FPS	Sensor	Format	Pixel Size	Shutter	Output	GigE Interface
HTW003S	0.3 MP	640x480 px	30 FPS (10 FPS*)	Sony DepthSense™ IMX556PLR CMOS	1/2"	10 µm	Global	3D Point Cloud, Intensity and Confidence	M12

*FPS for 3000µs Exposure Time

Physical, Interface, and Power Information	
Digital Interface	1 Gigabit Ethernet with M12 connector IEC 61076-2-109
GPIO Interface	8-pin M8 connector IEC 61076-2-104
I/O ports	1 input, 1 output, 2 bidirectional
Dimension	60 x 60 x 77.5 mm
IP Rating	IP67 (Must use IP67 cabling)
Ambient Light Filter	Yes, integrated on-camera
Weight	390 g
Power Consumption	<35 W Peak, 15W AVG via GPIO

Camera Features	
User Sets	1 default and 2 custom
Exposure Control	Manual, 3 Presets (187.5, 750, 3000 µs)
Gain Control	Manual, 2 Presets (High and Low)
Output Formats	Binary .PLY file Intrinsic parameters avilable.
OS Support	Windows and Linux

Standard and Certifications	
Standard	GigE Vision v2.0, GenICam 3D
Compliance	CE, FCC, RoHS, REACH, WEEE, Eye Safety Class 1 IEC 60825-1:2014
Shock and Vibration	EN 60068-2-6, EN 60068-2-27, EN 60068-2-64
Industrial Immunity	EN 61000-6-2
Operating Temperature	-20° C to 50° C (case temperature)

Imaging Properties	
Working Range	0.3 m up to 8.3 m
Operating Distance Modes	6 Modes: (1) 1250 mm, (2) 3000 mm, (3) 4000 mm, (4) 5000 mm, (5) 6000 mm, (6) 8333 mm
Lens Field of View	108° x 78° nominal
Illumination	4 x VCSEL laser diodes @ 850nm, Class 1, Eye Safe
Commiuncation Channels	Yes, 5 channels for multi-camera use. All Helios2 models (HTW, HLT, HTP) are cross compatible with eachother.
Pixel Formats	
Range Data	(All unsigned)
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	
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	Confidence map, 16 bits

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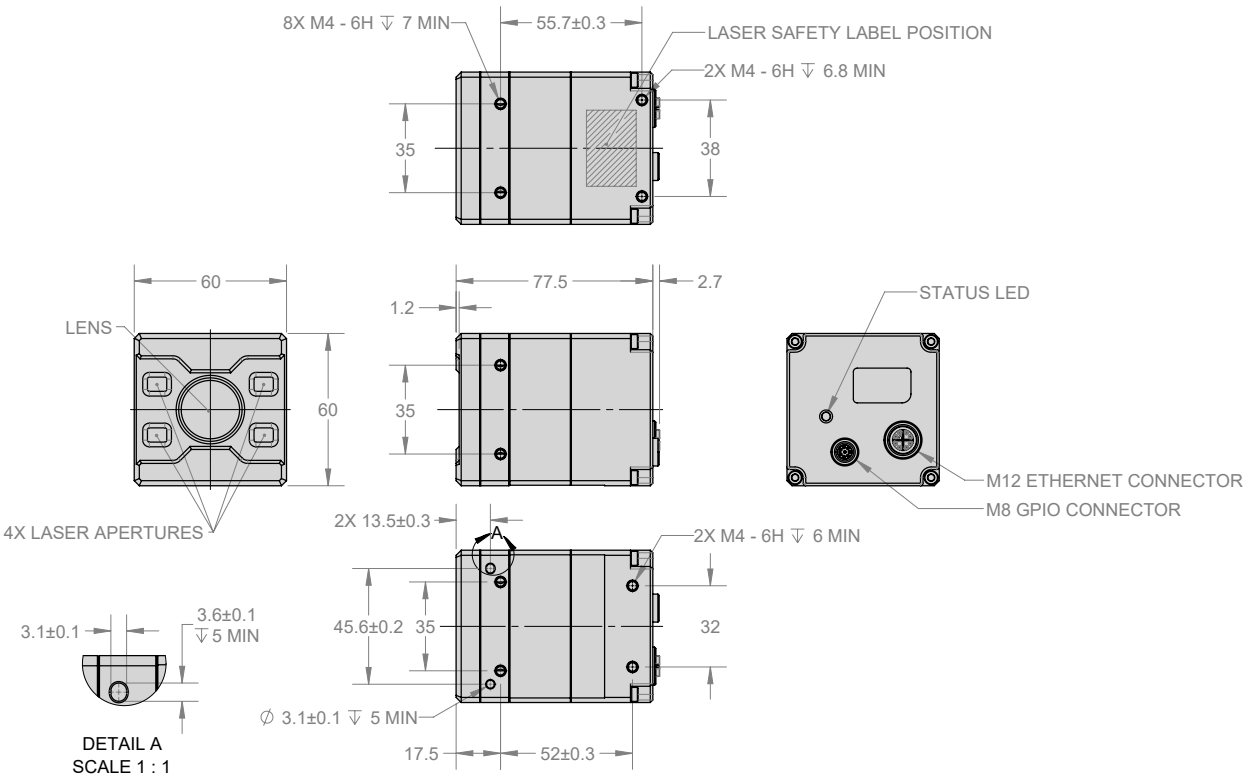
Accuracy Helios2 Wide vs Helios2/2+ (Typical)

Distance (m)	Accuracy (Helios2 Wide)	Accuracy (Helios2/2+)
1250mm Mode	± 6 mm	± 4 mm
3000mm Mode	± 10 mm + 0.5% of depth	± 10 mm
4000mm Mode	± 15 mm + 1.0% of depth	± 10 mm + 0.25% of depth
5000mm Mode	± 5 mm + 0.1% of depth	± 4 mm + 0.1% of depth
6000mm Mode	± 30 mm + 2.0% of depth	± 10 mm + 0.5% of depth
8300mm Mode	± 7 mm + 0.1% of depth	± 4 mm + 0.2% of depth

Precision (Typical)

Helios2 Wide 3000 µs exposure time precision results shown.

Distance (m)	1250mm Mode	3000mm Mode	4000mm Mode	5000mm Mode	6000mm Mode	8300mm Mode
0.5	1.08 mm	2.08 mm	2.85 mm	0.81 mm	4.42 mm	0.92 mm
1	1.01 mm	1.74 mm	2.76 mm	0.72 mm	4.27 mm	0.81 mm
1.5	1.12 mm	3.97 mm	4.29 mm	1.13 mm	5.51 mm	1.34 mm
2		4.76 mm	6.47 mm	1.94 mm	10.31 mm	2.02 mm
3		9.26 mm	11.55 mm	3.2 mm	14.83 mm	5.49 mm
4			21.45 mm	5.04 mm	25.04 mm	6.57 mm
5				8.48 mm	51.64 mm	10.03 mm
6					61.93 mm	12.94 mm
7						20.68 mm
8						25.48 mm



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