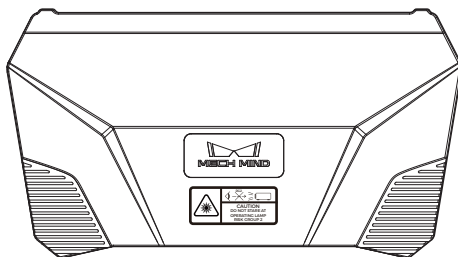


Mech-Eye Industrial 3D Camera

UHP-140-GL

Technical Specifications V3.0



Physical Specifications

Model	UHP-140-GL
Dimensions	260 × 65 × 142 mm
Weight	1.9 kg
Baseline	80 mm
Light source	Blue LED (459 nm, RG2)
2D image color	Monochrome
Operating temperature	0–45°C
Operating humidity	0–85%RH, non-condensing
Storage temperature	-20–60°C
Communication interface	Gigabit Ethernet
Input	24 VDC, 3.75 A
Power	Idle: 16 W Average: 24 W Peak: 40 W
IP rating ^[1]	IP65
Cooling	Passive
Flatness tolerance for mounting surface ^[2]	± 0.05 mm
Vibration resistance ^[3]	Sinusoidal vibration along the X-, Y-, and Z-axes, 10–57 Hz, 1.5 mm peak-to-peak value, 3 hours per axis
Shock resistance ^[4]	Half sine shock pulses along the positive and negative directions of the X-, Y-, and Z-axes, 147 m/s ² (15 g), 11 ms, 3 shocks per direction, 18 shocks in total

[1] Test implemented based on IEC 60529. 6: dust-tight; 5: waterproof.

[2] The flatness of the surface used to mount the camera should satisfy this requirement.

[3] Test implemented based on IEC 60068-2-6.

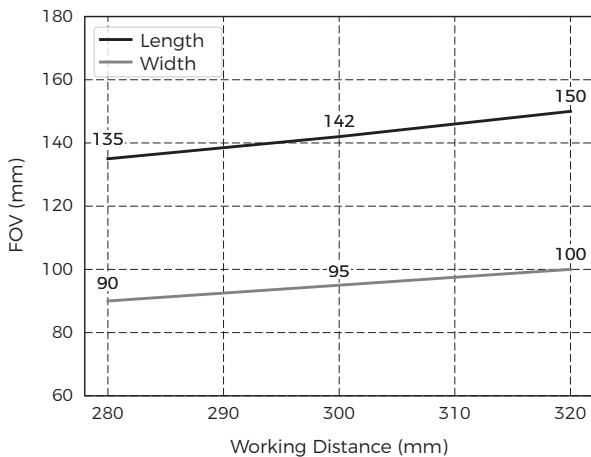
[4] Test implemented based on IEC 60068-2-27.

Performance Specifications

Working distance	280–320 mm
Recommended working distance	280–320 mm
Object focal distance ^[1]	300 mm
FOV (near)	135 × 90 mm @ 0.28 m
FOV (far)	150 × 100 mm @ 0.32 m
Resolution	2048 × 1536
Typical capture time ^{[2],[3]}	0.6–0.9 s
Recommended warm-up time ^{[2],[4]}	60 min
Point Z-value repeatability (1 σ) ^{[2],[5]}	2.6 μ m @ 0.3 m
Measurement accuracy (VDI/VDE) ^{[2],[6]}	0.03 mm @ 0.3 m

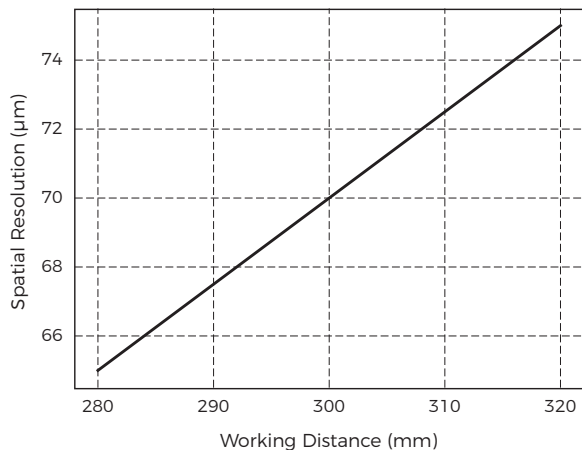
- [1] The object focal distance of the 2D camera inside the product.
- [2] Unless otherwise specified, this test was conducted under the standard test conditions listed on page 7.
- [3] The range of time taken to acquire depth data in the "Fast" and "Accurate" fringe coding mode.
- [4] The recommended warm-up time required to guarantee data accuracy to the listed values. For the warm-up method, refer to the user manual (The data acquisition interval is 3 s). Please adjust the warm-up time based on the actual data acquisition interval, ambient temperature, and heat-dissipation conditions.
- [5] The standard deviation of the 100 measured depth values of each point on the target object was calculated, and then the median of all the standard deviations was taken. The target object was a white 95% alumina ceramic plate with a rough surface. The Point Cloud Processing parameters were set to "Off".
- [6] Test implemented with reference to VDI/VDE 2634 Part 2.

FOV

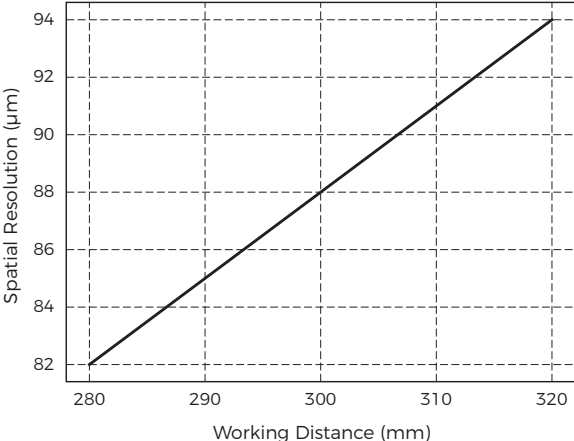


Spatial Resolution

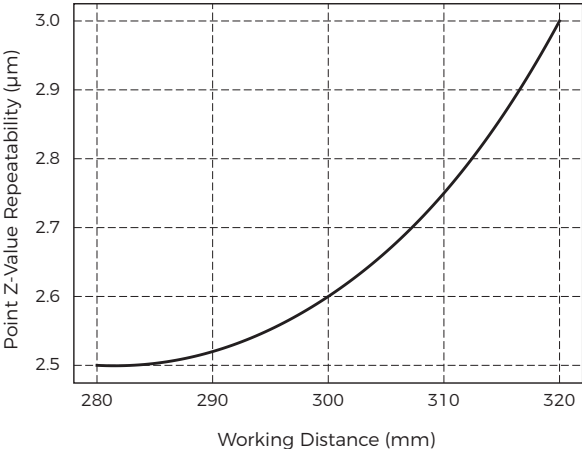
Capture Mode: Camera1/Camera2



Capture Mode: Merge

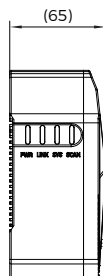
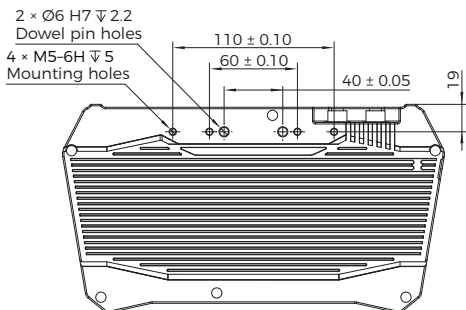
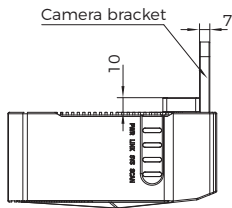
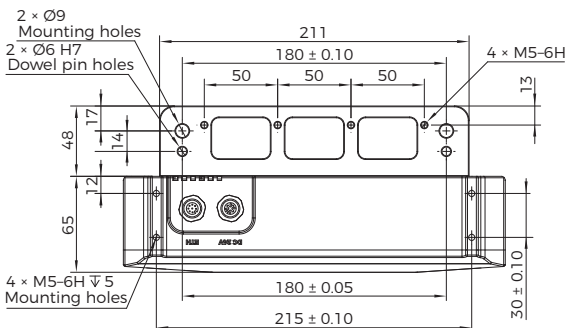
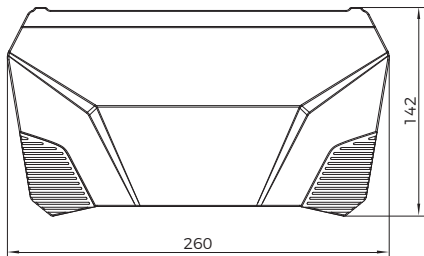


Point Z-Value Repeatability



Dimensions

Unit: mm



* Without the camera bracket

Certifications



Hereby [Mech-Mind Robotics Technologies Ltd.] declares that [UHP-140-GL] is in compliance with the Electromagnetic Compatibility Directive 2014/30/EU.

The full text of the EU Declaration of Conformity is available at:
<https://downloads.mech-mind.com/?tab=tab-eu-dec>



R-R-viz-UHP-140

Standard Testing Conditions

Working distance		280-320 mm	
Ambient temperature		15-30°C	
Ambient humidity		0-85%RH, non-condensing	
Ambient light		200-1000 lx	
Camera parameters ^[1]	Exposure Time: 3D		5 ms
	Exposure Mode: 2D		Flash
	Gain		0 dB
	Light Brightness		High
	Fringe Coding Mode		Accurate
	Point Cloud Processing	Outlier Removal	Normal
		Noise Removal	Normal
Surface Smoothing		Normal	
Tested region ^[2]		Length: 90% of FOV length Width: 90% of FOV width Position: center of FOV	

[1] Parameters not listed are set to their default values.

[2] Test data was obtained from this region.