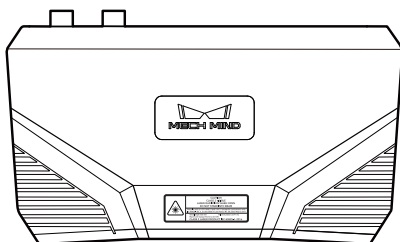


Mech-Eye

Industrial 3D Camera

LSR S-GL

Technical Specifications V3.0



Physical Specifications

Model	LSR S-GL
Dimensions ^[1]	228 × 77 × 126 mm
Weight ^[1]	1.9 kg
Baseline	140 mm
Light source	Red laser (638 nm, Class 2)
Operating temperature	-10–45°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: 22 W Average: 30 W Peak: 60 W
IP rating ^[2]	IP67
Cooling	Passive
Flatness tolerance for mounting surface ^[3]	± 0.05 mm
Vibration resistance ^[4]	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 ^[5]	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] Heat-dissipation panel not included.

[2] Test implemented based on IEC 60529. 6: dust-tight; 7: waterproof.

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

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

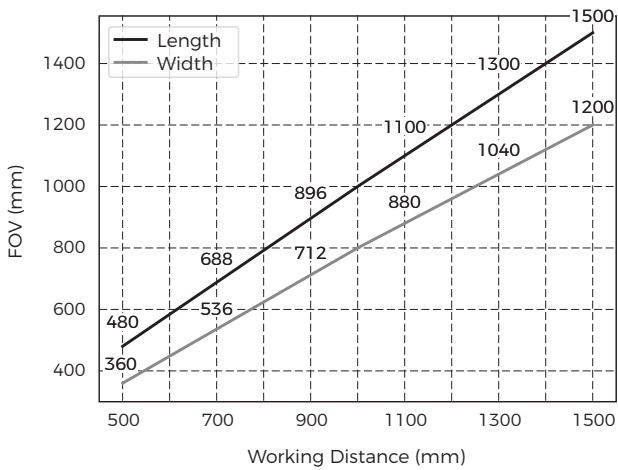
[5] Test implemented based on IEC 60068-2-27.

Performance Specifications

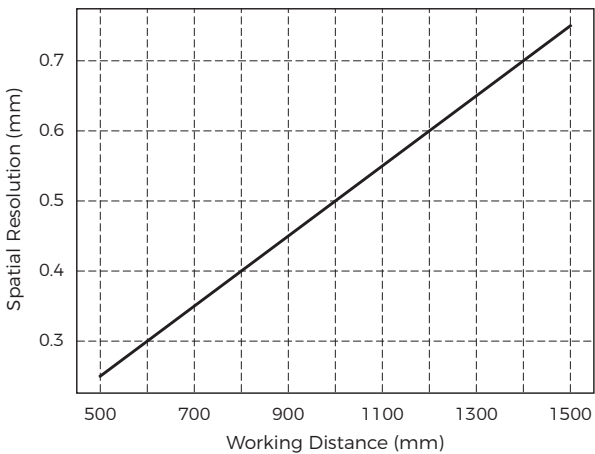
Working distance	500-900 mm	900-1500 mm
Recommended working distance	500-900 mm	900-1500 mm
Object focal distance ^[1]	800 mm	1400 mm
FOV (near)	480 × 360 mm @ 0.5 m	
FOV (far)	1500 × 1200 mm @ 1.5 m	
Depth map resolution	2048 × 1536	
RGB image resolution ^{[2],[3]}	4000 × 3000	
Typical capture time ^{[4],[5]}	0.5-0.9 s	
Recommended warm-up time ^{[4],[6]}	60 min	
Point Z-value repeatability (1σ) ^{[4],[7]}	0.2 mm @ 1.5 m	
Measurement accuracy (VDI/VDE) ^{[4],[8]}	1.0 mm @ 1.5 m	

- [1] The object focal distance of the 2D camera inside the product.
- [2] Can be changed to 2000 × 1500 through Mech-Eye Viewer.
- [3] "RGB image" refers to the "2D image (texture)" in Mech-Eye Viewer.
- [4] Unless otherwise specified, this test was conducted under the standard test conditions listed on page 7.
- [5] The range of time taken to acquire depth data in the "Fast" and "Accurate" fringe coding mode.
- [6] 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 10 s). Please adjust the warm-up time based on the actual data acquisition interval, ambient temperature, and heat-dissipation conditions.
- [7] 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".
- [8] Test implemented with reference to VDI/VDE 2634 Part 2.

FOV



Spatial Resolution

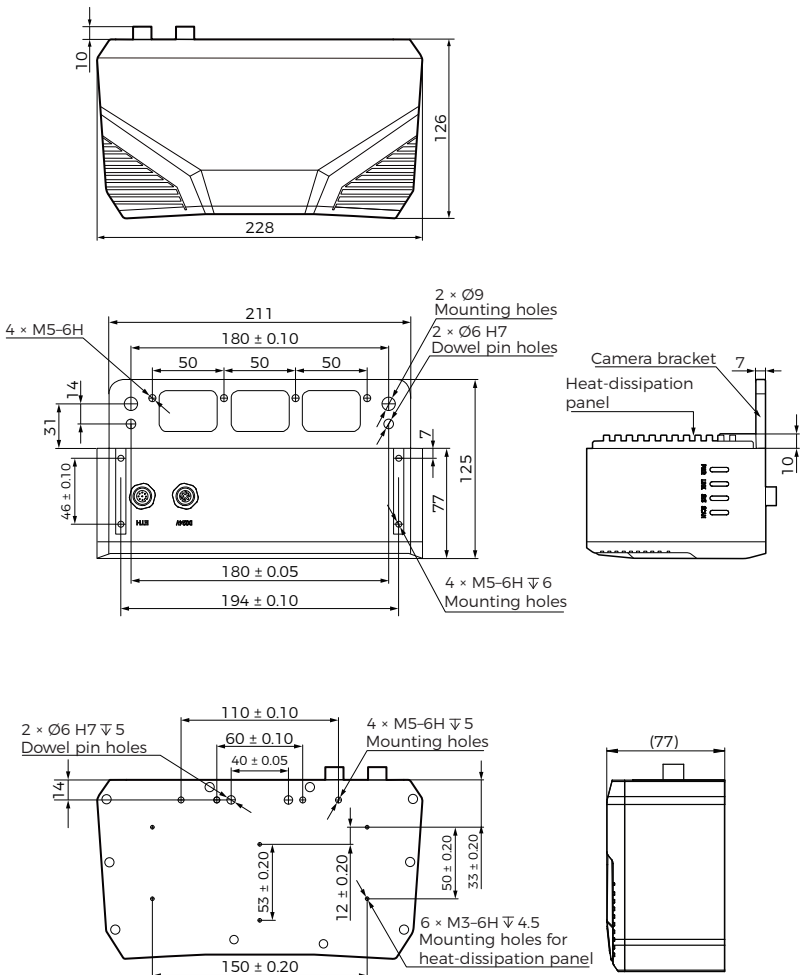


Point Z-Value Repeatability



Dimensions

Unit: mm



* Without the heat-dissipation panel and camera bracket

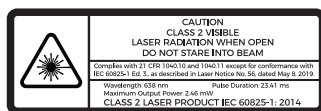
Certifications

Laser Product Safety

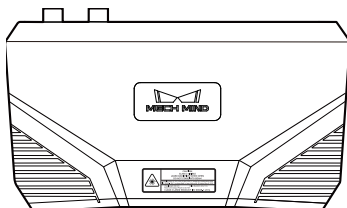
The Laser classification is implemented based on IEC 60825-1:2014 in accordance with the requirements of Laser Notice No. 56 of the FDA (CDRH).

Model	Wavelength	Maximum output power	Laser class
LSR S-GL	638 nm	2.46 mW	Class 2

Warning Label



Warning Label Attachment



Hereby [Mech-Mind Robotics Technologies Ltd.] declares that [LSR S-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-MM005

Standard Testing Conditions

Working distance ^[1]		500-900 mm 900-1500 mm	
Ambient temperature		15-30°C	
Ambient humidity		0-85%RH, non-condensing	
Ambient light		200-1000 lx	
Camera parameters ^[2]	Exposure Time: 3D		8 ms
	Exposure Mode: 2D image (texture)		Timed (Exposure Time: 50 ms)
	Exposure Mode: 2D image (depth source)		Flash (Flash Acquisition Mode: Fast)
	Gain		0 dB
	Laser Power		100%
	Fringe Coding Mode		Accurate
	Point Cloud Processing	Outlier Removal	Normal
		Noise Removal	Normal
Surface Smoothing		Normal	
Tested region ^[3]		Length: 90% of FOV length Width: 90% of FOV width Position: center of FOV	
RGB image resolution		4000 × 3000	

[1] For the object focal distance of 800 mm, the working distance used in tests is 500-900 mm. For the object focal distance of 1400 mm, the working distance used in tests is 900-1500 mm.

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

[3] Test data was obtained from this region.