



LightTime MEMScan™ Ladar Sensor Medium-Range (~1m to 100m) Applications Specifications

Top-Level Preliminary Specifications

The following specifications are preliminary and provided for guidance. Details are available.

<i>Performance Parameter</i>	<i>Specifications</i>
Laser Wavelength (λ)	IR ($\lambda = 860 - 1550$ nm, TBD)
FDA Laser Classification (Class)	Class 1 (Eye Safe) - Optional
Beam Divergence (diameter at specified distance)	1 mrad (e.g., ~ 50 mm at 50m)
Measurement Technique	TOF
Average Data Acquisition Rate* (pps) (Set of xyz & intensity values per second,)	1M+ (320x240 image at 15 fps)
Distance Accuracy	10 cm
Angular Resolution and Accuracy	0.1°
Minimum Range* (m)	~1 m *
Maximum Range* (m) (@object reflectivity %)	100 m (@100%) 30 m (@10%) **
Scan FOV* (vertical) Optical	24 - 48° (depends on MEMS mirror characteristics)
Scan FOV* (horizontal) Optical	32 - 64° (depends on MEMS mirror characteristics)
Minimum Vertical Scan Increment	0.1° (2mrad)
Minimum Horizontal Scan Increment	0.1° (2mrad)
Operating Temp Range (component)*	10-40°C (can be extended)
Humidity* (%)	20-80% RH
 General*	
Scanning Engine Dimensions (LxWxH)	10x4x10 cm
Scanning Engine Weight	<0.5 kg
Power Supply Dimensions (LxWxH)	TBD
Power Supply Weight	<0.5 kg
Weight of complete field-ready engine, (kg)	<1.5 kg
Shock Resistance	No breakage at 5000 m/s ² ; application time of 0.1ms sine half-wave pulse
Vibration Resistance	No breakage at 55-500Hz at 98m/s ²
* <i>Anticipated</i>	
** <i>Estimated using the relationship: Maximum Range is proportional to square root of object reflectivity</i>	