

SKYLANDX

C01 SLAM LiDAR

Hardware-Level Native Precision



C01 SLAM LiDAR

The C01 is a SLAM LiDAR purpose-built for high-precision localization, mapping, measurement, and obstacle avoidance. Combining three-axis longitudinal non-repetitive scanning and a high-performance IMU, it uses a smaller laser spot and rigorous calibration to produce dense, low-noise point clouds at the hardware level. Without relying on algorithmic compensation, the C01 delivers richer detail detection, faster micro-obstacle response, and more stable long-distance mapping.



High-Density Scanning

216,000 pts/s; 3-axis non-repetitive scan



Precise Edge Definition

0.15° × 0.36° angular resolution



Low-Noise Ranging

On-chip TDC;
< 1 cm range precision



Minimal Blind Zone

5 cm min. range; 20° downward coverage



Low-Vibration Operation

Rotation balancing
for smooth, quiet start-stop



Field-Ready Reliability

100 klux ambient light
resistance; IP67

Min. Detection Range	0.05 m	Max. Detection Range	40 m (@ 10% reflectivity); 70 m (@ 80% reflectivity)
FOV	360° (H) × 65° (V) (-20° to +45°)	Range Precision (1σ)	< 1 cm (@ 10 m)
Point Rate	216,000 pts/s (dual-line)	Angular Resolution	0.15° (H) × 0.36° (V)
Weight	420 g	Dimensions	73 × 73.75 × 77.8 mm

APPLICATIONS

Plug-and-play compatible with mainstream open-source algorithms.
Built for AMRs and spatial data collection.



Autonomous Forklifts



Latent AMRs



Service Robots



Humanoid Robots



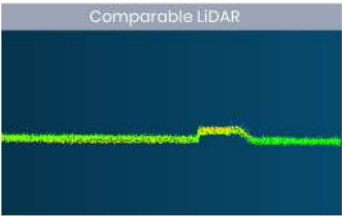
Quadruped Robots



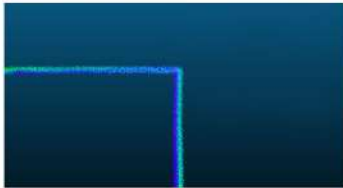
Handheld Scanners

FIELD TEST PERFORMANCE

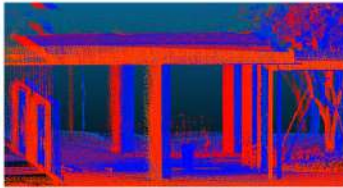
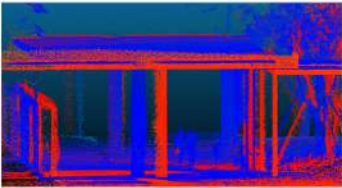
Hardware-level native precision, proven in detail capture and geometry definition.



Test 1: Repeatability
A smaller laser spot keeps noise down, so real surface variation stays visible.



Test 2: Edge & Corner Definition
Sharp transitions with no rounding or trailing points. Corner geometry stays true.



Test 3: Long-Range Mapping Stability
No loop closure applied. Lower positional and attitude error keeps drift contained over extended routes.

* All tests were captured under identical conditions. Test 3 ran the same open-source SLAM algorithm on both sensors.

Laser Wavelength	905 nm
Laser Safety	Class 1 (IEC60825-1:2014) (Eye Safety)
Max. Detection Range	40 m @ 10% reflectivity 70 m @ 80% reflectivity
Min. Detection Range	5 cm
FOV	360° (H) × 65° (V) (-20° to +45°)
Point Rate	216,000 pts/sec (dual-line) 108,000 pts/sec (single-line)
Range Precision (1σ)	< 1 cm (@ 10 m) ⁽¹⁾
Angular Resolution	0.3° (H) × 0.36° (V) @ 1 s integration 0.15° (H) × 0.36° (V) @ 2 s integration
Scan Rate	10 Hz (typical), up to 30 Hz
Scan Pattern	Non-repetitive
Communication Protocol	UDP
Motion Sensing	3-axis accelerometer + 3-axis gyroscope
IMU Sample Rate	200 Hz
Operating Temperature	-20°C to +55°C
Storage Temperature	-30°C to +70°C
Ingress Protection	IP67
Ambient Light Resistance	100 klux
Power	15 W (max)
Input Voltage	12 to 30 V DC
Weight	420 g
Dimensions	73 × 73.75 × 77.8 mm

(1) Tested in an environment at a temperature of 25° C (77° F) with a target object that has a reflectivity of 80% and is 10 meters away from C01.

SKYLANDX

Official Website: skylandx.com

E-mail: info@skylandx.com



LinkedIn



YouTube