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Global-Leading All-Scenario LiDAR and All-Stack System Solutions Provider

Guangdong Provincial Engineering Technology Research Center for LiDAR

Founded in February 2015, Shenzhen LeiShen Intelligent System Co., Ltd. is the only company in the industry to have received the Second Prize of the National Science and Technology Progress Award. Recognized as a National-Level "Little Giant" Enterprise, a National High-Tech Enterprise, and recipient of the First Prize of the Shenzhen Science and Technology Progress Award, LSLiDAR has become a global leader in all-scenario LiDAR and intelligent handling robot system solutions through strong in-house R&D capabilities.

LSLiDAR is dedicated to developing high-performance LiDAR and industry application solutions with full technology routes, comprehensive field applications, and complete domestic production. We have established a business ecosystem comprising 7 major LiDAR product platforms + 3 core algorithms + 2 main controllers + N all-scenario solutions. LSLiDAR empowers industrial upgrades through high-end, stable, and reliable environmental perception technology and provides services to 10 major industrial ecosystems, including autonomous driving, smart transportation, rail transit, general aviation, robotics, smart logistics, high-end security, ports, surveying & mapping, and industrial automation.



Robust R&D Capabilities

Through implementing strategies in intellectual property and standardization, and emphasizing commercialization of R&D achievements, LSLiDAR has significantly enhanced the core competitiveness in original and strategic technology innovation.

As of now, LSLiDAR has 662 patent applications, including 334 invention patents, 175 utility models, 122 design patents and 31 PCT applications; 421 granted patents, including 139 invention patents, 165 utility models and 117 design patents; 74 registered software copyrights and 3 approved IC layout designs.

- LSLiDAR is the only company globally that masters all 4 core LiDAR ranging principles: FMCW, Time of Flight (TOF), Phase-based, and Triangulation, and has achieved mass production capabilities for both 1550nm and 905nm auto-grade LiDAR. This makes the most comprehensive LiDAR product matrix in the market.
- LSLiDAR is also one of the earliest in China to pursue a vertically integrated industrial chain strategy, with end-to-end capabilities across core component design, R&D, manufacturing, processing, and testing, all at industry-leading levels.
- We can independently develop and manufacture dedicated LiDAR chips, fiber lasers, 10+ high-power optical components, automated equipment for optical fiber core component production, and packaging technology for semiconductor lasers and detectors, successfully solving one of China's "bottleneck" technologies in LiDAR. This achievement was featured in the People's Daily.

Major Honors

- Second Prize of the National Science and Technology Progress Award
- National-Level "Little Giant" Enterprise
- Recognized as Key Winner in the AI Innovation Task List by MIIT
- First Prize of Shenzhen Science and Technology Progress Award
- National Intellectual Property Advantage Enterprise
- National High-Tech Enterprise
- Certified as the Guangdong Provincial Engineering Technology Research Center for LiDAR
- Winner of the 2019 Guangdong Provincial Key R&D Program for New Energy Vehicles



MILESTONES OF LSLIDAR

LSLIDAR

- LSLiDAR founded in February
- Released triangulation LiDAR
- Secured angel round funding

2015



2016

- Shenzhen factory started production
- Secured Series A financing

2017



- Released TOF mechanical single-line and multi-line LiDAR
- Began R&D on 3D SLAM technology

2018

- Secured Series B financing

2019



- Launch of auto-grade hybrid solid-state LiDAR
- Recognized as Guangdong Provincial Engineering Technology Research Center for LiDAR

2020



- Self-developed CH32 LiDAR became the first domestically and second globally to pass auto-grade certification
- Passed IATF16949 automotive quality management system certification
- Won the Guangdong Provincial Key R&D Program for New Energy Vehicles

2021



- Received Second Prize of the National Science and Technology Progress Award
- Recognized as Key Winner in the AI Innovation Task List by MIIT
- Invested in Jiangsu subsidiary
- Secured Series C financing
- Built in-house auto-grade LiDAR automated factory

2022



- Released image-grade 1550nm fiber laser automotive LiDAR
- Introduced multi-line LiDAR-based 3D SLAM solution
- Selected as National "Little Giant" Enterprise
- Achieved ISO26262:2018 (ASIL-D) automotive functional safety process certification

2023

- Released upgraded version of 1550/ 905nm hybrid solid-state LiDAR and mechanical LiDAR
- Achieved breakthroughs in dust, rain, fog filtering and mirrored scene perception
- Secured over RMB 100 million in Series D financing

2024

- Recognized as a National Intellectual Property Advantage Enterprise
- Released ultra-long-range 1550nm fiber laser LiDAR S4 series



2025

- Received First Prize of Shenzhen Science and Technology Progress Award
- Released ultra-long-range Km-Level low-altitude management UAV detection fiber laser LiDAR series

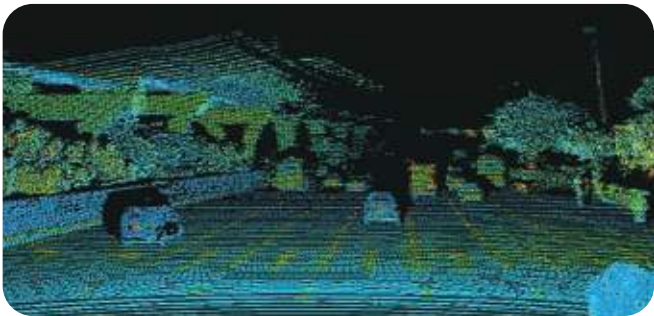
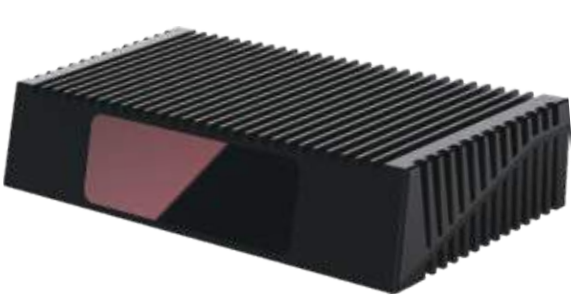


LS180S2

Image-Grade 1550nm Auto-Grade Hybrid Solid-State LiDAR

LS180S2 is an image-grade LiDAR meeting automotive standards, which adopts the in-house 1550nm fiber-laser and high-power core optical devices. It can detect small objects within super long range, and is also built with anti-interference functionality.

Featuring an ultra-thin design for easy integration into vehicles, LS180S2 is designed for high reliability and mass production, empowering autonomous driving. It leads the industry in performance and is the preferred main LiDAR for Level 3 and higher advanced autonomous driving.



Wavelength	1550nm	Data Point Generating Rate	1,650,000 pts / sec
Channels Per Frame	180	Communication Interface	Automotive Ethernet
Channels Per Sec	1800	Input Voltage	12~36V DC
Laser Class	Class I	Power Consumption	≤28 W
Detection Method	TOF	IP Grade	IP6K9K
Detection Range	1.5m~250m (@10%)	Operating Temperature	-40℃ ~ 75℃
Range Precision	±2cm	Storage Temperature	-40℃ ~ 105℃
Horizontal FOV	120°	Vibration Test	5Hz~2000Hz, 3G rms
Vertical FOV	25° (±12.5°)	Shock Test	500m/sec ² , lasting for 11ms
Angular Resolution (H)	0.13°	Weight	≤1.8kg
Angular Resolution (V)	0.1° (@ROI)	Dimensions(LxWxH)	236x125x49mm
FPS	10Hz		



LS-S3 Series

Image-Grade 1550nm Auto-Grade Hybrid Solid-State LiDAR

LS series is image-grade LiDAR meeting automotive standards, which adopts the in-house 1550nm fiber-laser and high-power core optical devices. LS series can detect small objects within super long range. The series is also built with anti-interference functionality.

LS-S3 series offers a variety of channels and scanning options, featuring an ultra-thin design for easy integration into vehicles. With its 1550nm fiber laser auto-grade LiDAR, it is designed for high reliability and mass production, empowering autonomous driving. It leads the industry in performance and is the preferredmain LiDAR for Level 3 and higher advanced autonomous driving.



Model	LS144S3	LS180S3	LS400S3
Channels Per Frame	144	180	400
Channels Per Sec	1440	1800	4000
Horizontal FOV	120°	120°	120°
Vertical FOV	24°	25°(±12.5°)	25° (±12.5°)
Horizontal Angular Resolution	0.103°	A: 0.129°; B: 0.13°	A: 0.0648°
Vertical Angular Resolution	A: 0.143°; B: 0.2°, 0.0909°(@ROI, 4°)	A: 0.11°; B: 0.1°(@ROI)	A: 0.05°(Non-Global)
Data Point Generating Rate	1,650,000 pts/sec	1,650,000 pts/sec	1,850,000 pts/sec
Suggested for static or low-speed object detection.			

P.S.: LS-S3 series offers four scanning options: A: Uniform scanning, B: Fixed ROI scanning. For more information on additional cable harness configurations and scanning options, please contact our sales team.

Wavelength	1550nm	IP Grade	IP6K9K
Laser Class	Class I	Operating Temperature	-40℃~85℃ (Automotive Ethernet) -20℃~65℃ (Industrial Ethernet)
Detection Method	TOF	Storage Temperature	-40℃ ~ 105℃ (Automotive Ethernet) -40℃~85℃ (Industrial Ethernet)
Detection Range	1.5~180 / 210 / 250m (@10%)	Vibration Test	5Hz~2000Hz, 3G rms
Range Precision	±2cm	Shock Test	500m/sec ² , lasting for 11ms
FPS	10Hz	Weight	≤1600g
Input Voltage	9~36V DC	Dimensions (LxWxH)	229*132*46 mm
Power Consumption	≤25 W		
Communication Interface	Automotive / Industrial Ethernet		

LS-S4 Series

High Precision Long-Range Ultra-High Definition Fiber Laser LiDAR

LS-S4 is a high-performance fiber laser LiDAR based on Time-of-Flight (TOF) technology, featuring a fully self-developed 1550nm wavelength fiber laser and high-power fiber components. With a detection range of up to 1500 meters, an ultra-dense point cloud output of 6 million points per second, horizontal resolution as fine as 0.036°, vertical resolution of 0.0487°.LS-S4 achieves ultra-long-range, high-frame-rate, high-resolution 3D perception while meeting eye-safety standards.



Application Scenarios:

Unmanned intelligent equipment: eVTOL, flying cars, unmanned helicopters, drones, unmanned vehicles, and unmanned vessels, enabling intelligent driving and safety obstacle avoidance.

Application Fields:

Comprehensively covering sectors such as low-altitude economy, general aviation, aerospace, surveying and mapping, intelligent transportation, smart cities, firefighting and emergency response, power inspection, rail transit, construction machinery, smart mining, tunnels, forest monitoring, ports and terminals, bridge collision prevention, and high-end security, forming an integrated intelligent management system across air, land, sea, and space.

Model: LS216S4

Channels	216	Angular Resolution(V)	Minimum 0.0487°、AVG 0.07°
Detection Method	TOF	Echo	Single Echo / Double Echo
Wavelength	1550nm	Communication Interface	Gigabit Ethernet
Detection Range(Max)	1000m (DJI Phantom 4 Drone > 400m)	GNSS Interface	PTPv2 / v4, PPS, GPS
Data Point Generating Rate	3,330,000 pts/sec	Input Voltage	12~30VDC (24V)
Range Precision	±5cm	Power Consumption	< 75W
FPS	5Hz	IP Grade	IP67
Blind Area	< 3m	Operating Temperature	-20°C~65°C
Horizontal FOV	60°	Weight	≈3kg
Angular Resolution(H)	0.019°	Dimensions (LxWxH)	219x149x85mm
Vertical FOV	15° (-5°~10°)		

Model: LS360S4-A/B

Channels	360	Angular Resolution(V)	A:0.066° / B: 0.04° (ROI 5.8°) / 0.1° (non ROI)
Detection Method	TOF	Echo	Single Echo / Double Echo
Wavelength	1550nm	Communication Interface	Gigabit Ethernet
Detection Range(Max)	700 / 1200 / 1500m	GNSS Interface	PTPv2 / v4, PPS, GPS
Data Point Generating Rate	6,000,000 / 3,330,000 / 1,662,000 pts/sec	Input Voltage	12~30VDC (24V)
Range Precision	±5cm	Power Consumption	< 75W
FPS	10Hz	IP Grade	IP67
Blind Area	< 3m	Operating Temperature	-20°C~65°C
Horizontal FOV	60°	Weight	≈3kg
Angular Resolution(H)	0.036° / 0.065° / 0.13°	Dimensions (LxWxH)	219x149x85mm
Vertical FOV	A:28.5° (-18.5°~10°) / B:27.5° (-17.5°~10°)		

LS-S4 Series

High Precision Long-Range Ultra-High Definition Fiber Laser LiDAR

Model: LS432S4-W

Channels	432	Angular Resolution(V)	0.081°
Detection Method	TOF	Echo	Single Echo / Double Echo
Wavelength	1550nm	Communication Interface	Gigabit Ethernet
Detection Range(Max)	600 / 1000 / 1200m	GNSS Interface	PTPv2 / v4, PPS, GPS
Data Point Generating Rate	6,000,000 / 3,330,000 / 1,662,000 pts/sec	Input Voltage	12~30VDC (24V)
Range Precision	±5cm	Power Consumption	< 75W
FPS	10Hz	IP Grade	IP67
Blind Area	< 3m	Operating Temperature	-20°C~65°C
Horizontal FOV	60°	Weight	≈3kg
Angular Resolution(H)	0.0432° / 0.0777° / 0.155°	Dimensions (LxWxH)	219x149x85mm
Vertical FOV	39.5° (-19.5°~20°)		

Naming Description:

LS360S4-A

LS: LSLiDAR 1550 series models -A: Uniform vertical angle distribution -W: Wide vertical field of view
360: Number of vertical lines -B: Vertical ROI distribution

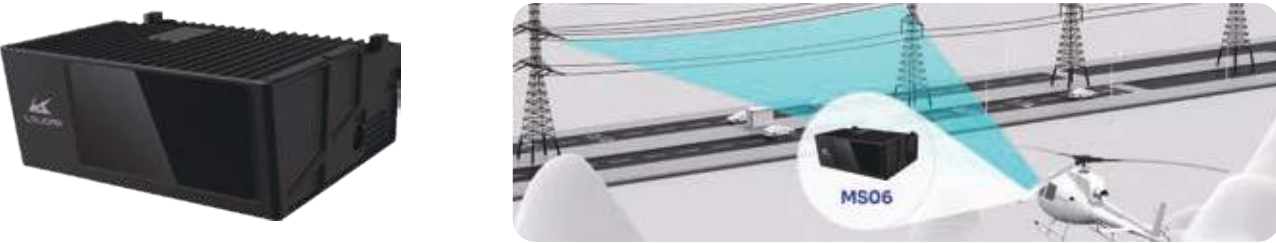
Only the LS300S4 adopts a single-sided scanning mode. Other models feature a double-sided scanning mode.

This series truly realizes long-range, high-frame-rate, and high-resolution performance, with a maximum frame rate of 20Hz, a detection range of up to 1500m, and a minimum horizontal resolution of 0.036°. The vertical field of view ranges from +20° to -20° (customizable).

The LiDAR parameters can be customized to suit different application scenarios, offering flexibility to meet customer needs.

MS06 Ultra-Long-Range Low-Altitude UAV Detection Fiber Laser LiDAR

MS06 adopts a self-developed and self-manufactured 1550nm fiber laser, with a maximum detection range of up to 2000 meters. It features ultra-long-range high-precision sensing capabilities and can be applied to low-altitude drone detection and tracking, ensuring low-altitude airspace security.



Wavelength	1550nm	Detection Range (Max)	1200 /2000m
Detection Range	20m~500m (DJI Phantom 4 Drone)		

*Please contact sales for detailed parameters.

MS12 Ultra-Long-Range Low-Altitude UAV Detection Fiber Laser LiDAR

MS12 adopts a self-developed and self-manufactured 1550nm fiber laser, with a maximum detection range of up to 1800 meters. It features ultra-long-range high-precision sensing capabilities and can be applied to low-altitude drone detection and tracking, ensuring low-altitude airspace security.



Wavelength	1550nm	Detection Range (Max)	1800m
Detection Range	1000m (DJI Phantom 4 Drone)		

*Please contact sales for detailed parameters.

LS500W1 Ultra-Wide FOV Blind Spot Detection LiDAR

LS500W1 utilizes LSLiDAR’s in-housed 1550nm fiber laser and over a dozen high-power core optical components. It boasts exceptional long-range small object detection capabilities and an extremely high-density point cloud performance. It has a detection range of 2 to 150m and an ultra-wide field of view of 120° (H) x 73° (V). With a measurement rate of 3.7 million points per second, it can accurately identify various target attributes such as humans, animals, vehicles, tires, and fallen objects over a large area, providing output information on distance and 3D contours.

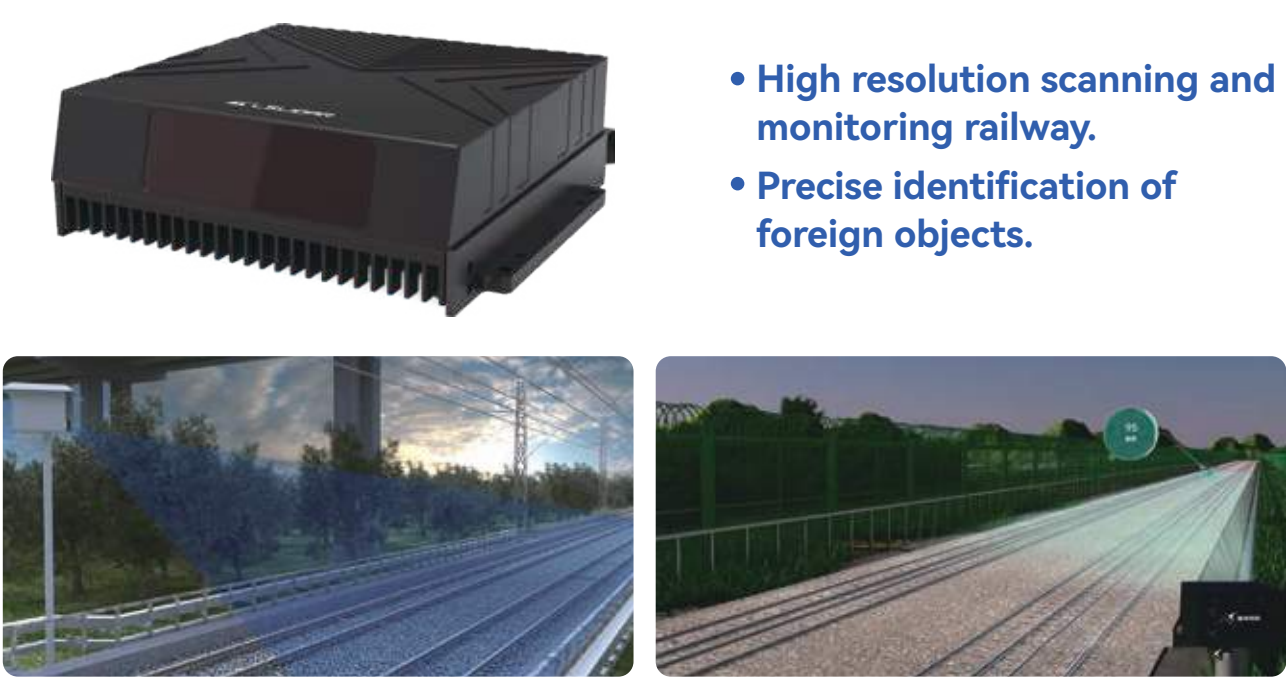


Wavelength	1550nm	Input Voltage	9~36V DC
Detection Range	2~60m (Max 150m)	Power Consumption	≤40W
Range Precision	±2cm	Communication Interface	Industrial Ethernet
FPS	10Hz	Operating Temperature	-40°C~75°C
Horizontal FOV	120°	IP Grade	IP6K9K
Vertical FOV	73° (±36.5°)	Vibration Test	500m/sec², lasting for 11ms
Angular Resolution (H)	0.155°	Shock Test	5Hz ~ 2000Hz,3G rms
Angular Resolution (V)	0.146°	Weight	≤3000g
Data Point Generating Rate	3,700,000 pts/sec	Dimensions(LxWxH)	270x160x80 mm

LS25E

Rail Transit 1550nm Hybrid Solid-state LiDAR

LS25E is specifically designed for fixed-point monitoring on railway tracks. It has a maximum detection range of 250m and can effectively detect small objects measuring 20x20cm within a range of 200m. This allows for clear and accurate identification of intruding objects, ensuring the safety of train operations.



Wavelength	1550nm	Data Point Generating Rate	1,800,000 pts/sec
Detection Range	1.5~250m@10%	Input Voltage	9~36V DC
Range Precision	±3cm	Power Consumption	≤25W
Horizontal FOV	120°	Communication Interface	Industrial Ethernet
Vertical FOV	25° (±12.5°)	Operating Temperature	-20°C~65°C
Angular Resolution (H)	0.03°	IP Grade	IP6K9K
Angular Resolution (V)	0.076°	Weight	≤1600g
FPS	1Hz	Dimensions(LxWxH)	229x132x46 mm

LS30MVA

Long-Range Bridge Collision Avoidance 1550nm LiDAR System

The LS30MVA long-range visually adjustable laser ranging system, independently developed by LSLiDAR, consists of a long-distance fixed-point rangefinder, an angular displacement platform, and a camera. It is specifically designed for bridge collision prevention warnings. When the rangefinder experiences displacement in the pitch direction due to various reasons, the system can automatically sense and adjust the emitted laser to a horizontal angle. The camera's optical axis is parallel to the laser direction, allowing for direct confirmation of the target situation when the rangefinder detects an object ahead.



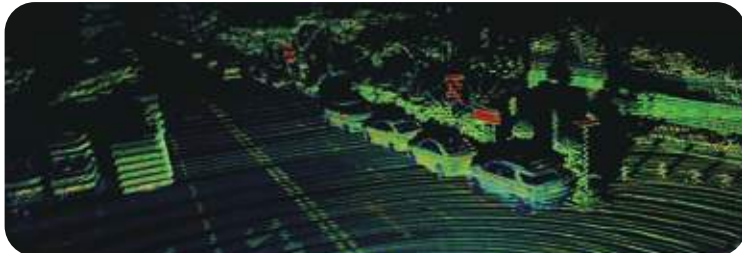
Wavelength	1550nm	Input Voltage	AC/170~264V DC
Detection Range (Max)	10~2000m@10%	Power Consumption	50W (Max)
Detection Range (Min)	10m	IP Grade	IP66 (Customizable)
Range Precision	±15cm	Operating Temperature	-10°C~60°C
Data Point Generating Rate	500 pts/sec	Vibration Test	Able to withstand vibration shock with acceleration of 0.73 G
Accuracy of Laser Pitch Angle	0.01°	Weight	≤15 kg
Communication Interface	Ethernet	Dimensions(LxWxH)	350x272.5x487 mm

CH Series

Auto-Grade Hybrid Solid-State LiDAR

CH128 Series LiDAR features 128 scanning channels, with a maximum detection range of 200m and an accuracy of ±3cm. It achieves a measurement rate of up to 760,000 points per second, creating high-precision 3D environmental point cloud maps. Combined with rain, fog, and dust filtering algorithms, it operates stably in harsh conditions.

This LiDAR is applicable in autonomous driving, intelligent transportation, vehicle-to-everything (V2X) collaboration, rail transit, high-end security, and surveying fields.

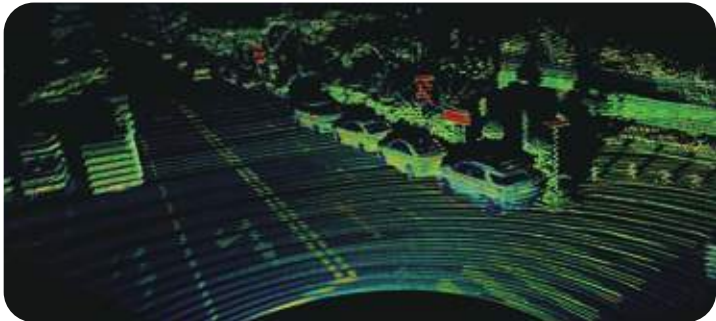


		CH128X1	CH128S1
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
	Channels	128	128
	Detection Method	TOF	TOF
SPEC	Detection Range	200m (160m@10%)	200m (160m@10%)
	Range Precision	±3cm	±3cm
	Horizontal FOV	120°	120°
	Vertical FOV	25°(-18°~7°)	25°(-12.5°~12.5°)
	Angular Resolution (H)	0.1° / 0.2° / 0.4°	0.1° / 0.2° / 0.4
	Angular Resolution (V)	0.125°@ROI, 0.25°@Non ROI	0.125°@ROI, 0.25°@Non ROI
	FPS	5 / 10 / 20 Hz	5 / 10 / 20 Hz
	Data Point Generating Rate	760,000 pts/sec	760,000 pts/sec
EXPORT	Communication Interface	Automotive / Industrial Ethernet	Automotive Ethernet
ELECTRIC	Input Voltage	9V~36V DC	9V~36V DC
	Power Consumption	15W	12W
ENVIRON-MENT	AUTOSAR	ASIL B	ASIL B
	IP Grade	IP6K9K	IP6K9K
	Operating Temperature	-40°C~85°C	-40°C~85°C
	Vibration Test	10Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
MACHINE	Weight	1000g	1000g
	Dimensions(LxWxH)	118x90x75 mm	118x90x75 mm

CH16X1

Hybrid Solid-State LiDAR

CH16X1 is a modified version based on the CH128X1, inheriting its outstanding long-range measurement and high angular resolution characteristics. With its exceptional performance and stability, it can easily handle a variety of complex environments, ensuring stable and accurate operation. It is widely used in grain bin testing, volume measurement and other fields.



Wavelength	905nm	Data Point Generating Rate	95,000 pts/sec
Laser Class	Class I	Communication Interface	Industrial Ethernet
Channels	16	Input Voltage	9V~36V DC
Detection Method	TOF	Power Consumption	12W
Detection Range	200 m (160 m @10%)	IP Grade	IP 6K9K
Range Precision	±3cm	Operating Temperature	-40°C ~ +85°C
Horizontal FOV	120°	Storage Temperature	-40°C ~ +105°C
Vertical FOV	-2°~2°	Vibration Test	5Hz-2000Hz, 3G rms
Angular Resolution (H)	0.06° / 0.12° / 0.24°	Shock Test	500m/sec², lasting for 11ms
Angular Resolution (V)	0.25°	Weight	1000g
FPS	5 / 10 / 20Hz	Dimensions (LxWxH)	118*90*75 mm

CH256X1

Hybrid Solid-State LiDAR

CH256X1 has significantly improved in vibration resistance, shock resistance, and point cloud processing. It can adapt to continuous operation in high-vibration and high-impact environments. It creates high-density point cloud imaging, providing more accurate environmental perception.

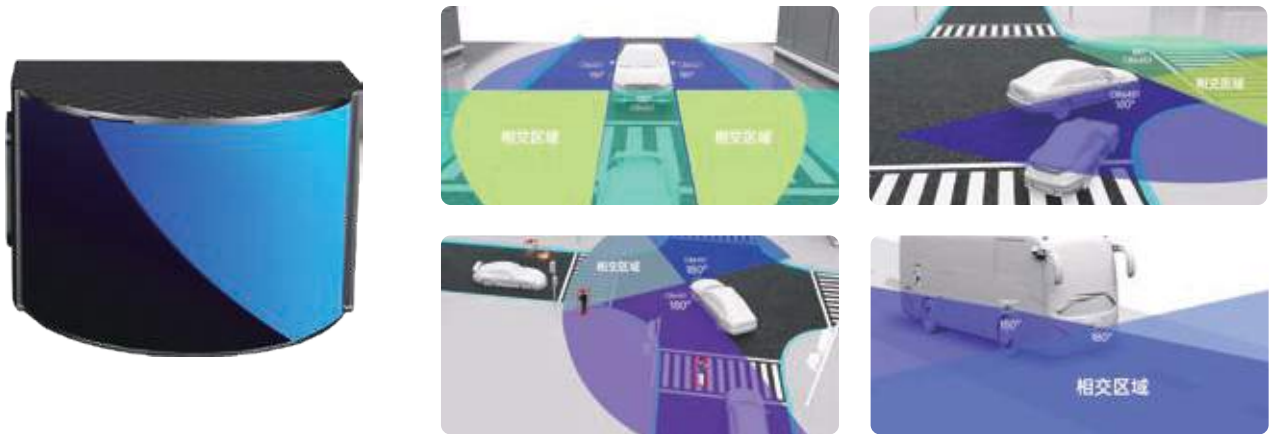


Wavelength	905nm	Data Point Generating Rate	*
Laser Class	Class I	Communication Interface	*
Channels	256	Input Voltage	*
Detection Method	TOF	IP Grade	*
Detection Range	200m@10%	Operating Temperature	*
Range Precision	*	Storage Temperature	*
Horizontal FOV	120°	Vibration Test	*
Vertical FOV	40° (-20°~20°)	Shock Test	*
Angular Resolution (H)	*	Weight	≤2000g
Angular Resolution (V)	*	Dimensions (LxWxH)	154*108*100mm
FPS	*		177*108*100mm (Including Mounting Hole)

CB64S1

Wide FOV Blind Spot Detection LiDAR

CB64S1 is designed specifically to eliminate blind spots. It features an ultra-wide field of view of 180° x 40°, with measurement accuracy of ±3cm. It can efficiently identify obstacles within a short range and bring accurate environmental perception to the driving blind spots of vehicles, robots and AGV.



Wavelength	905nm	Communication Interface	Automotive / Industrial Ethernet
Laser Class	Class I	Input Voltage	9V~36V DC
Channels	64	Power Consumption	12W
Detection Method	TOF	AUTOSAR	ASIL B
Detection Range	100m(45m@10%)	IP Grade	IP6K9K
Range Precision	±3cm	Operating Temperature	-40°C~85°C
Horizontal FOV	180°	Storage Temperature	-40°C~105°C
Vertical FOV	40°(-25°~15°)	Vibration Test	10Hz~2000Hz, 3G rms
Angular Resolution (H)	0.12°	Shock Test	500m/sec², lasting for 11ms
Angular Resolution (V)	0.63°	Weight	1000g
FPS	10Hz	Dimensions(LxWxH)	116x90x76 mm
Data Point Generating Rate	1,010,000 pts/sec		

CX Series

Auto-Grade Hybrid Solid-State LiDAR

The CX series LiDAR, leveraging major breakthroughs by LSLiDAR in automotive-grade high-density mixed solid-state technology, achieves a detection range of 200m at 10% reflectivity and high angular resolution. It fully meets the high standards required for remote sensing in autonomous driving. Its ultra-low power consumption ensures stability and reliability for prolonged use, providing a solid foundation for the safe operation of autonomous vehicles. Additionally, the CX series features a slim and lightweight design, making it easy to integrate into the roof or front bumper of vehicles, and aligns with the aesthetic requirements of passenger car design.



		CX128S2	CX126S3
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
SPEC	Channels	128	126
	Detection Method	TOF	TOF
	Detection Range	200m@10%	200m (160m@10%)
	Range Precision	±3cm	≤3cm
	Horizontal FOV	120°	120°
	Vertical FOV	25°(-12.5°~12.5°)	25°(-12.5°~12.5°)
	Horizontal Resolution	0.05° / 0.1° / 0.2°	0.09° / 0.18° / 0.36°
	Vertical Resolution	0.125° @ROI, 0.25°@Non ROI	0.2°
	FPS	5 / 10 / 20 Hz	5 / 10 / 20 Hz
EXPORT	Data Point Generating Rate	1,530,000 pts/sec	840,000 pts/sec
	Communication Interface	Automotive Ethernet	Automotive Ethernet
ELECTRIC	Input Voltage	9V~16V DC	9V~16V DC
	Power Consumption	15W	13.5W
ENVIRON-MENT	IP Grade	IP6K9K	IP6K9K
	Operating Temperature	-40°C~85°C	-40°C~85°C
	Vibration Test	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
MACHINE	Weight	≤935g	635g
	Dimensions(LxWxH)	139x112.78x47 mm	110x100.4x45 mm

CX Series

Auto-Grade Hybrid Solid-State LiDAR

CX series is a modification of CX126S3 hybrid solid-state LiDAR, featuring two types of channels: single-line and six-line. It is designed to meet the requirements of industrial scenarios, offering precise distance and reflectivity information for 2D/3D mapping, detection, and obstacle avoidance. With a maximum scanning frequency of 150Hz and a detection range of 150 meters (@10%), it is suitable for large-scale operations. CX series LiDAR boasts fast scanning speed, high resolution, and high reliability as its key advantages.

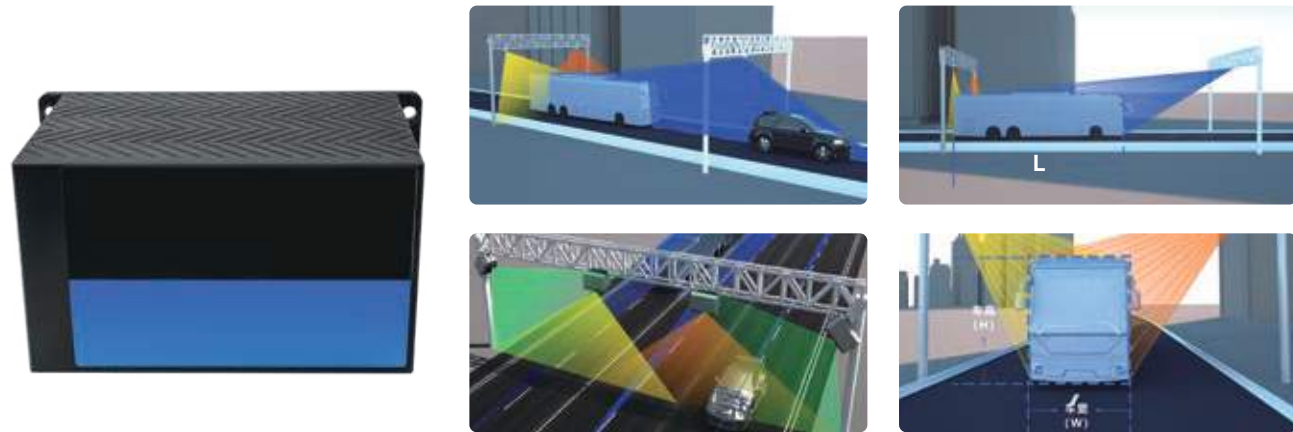


		CX1S3	CX6S3
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
SPEC	Channels	1	6
	Detection Method	TOF	TOF
	Detection Range	150m@10%	20m@10%
	Range Precision	±3cm	±3cm
	Horizontal FOV	120°	120°
	Vertical FOV	/	1°
	Horizontal Resolution	0.024° / 0.048° / 0.072° / 0.096° / 0.12°	0.075° / 0.15° / 0.3°
	Vertical Resolution	/	0.2°
	FPS	30 / 60 / 90 / 120 / 150 Hz	5 / 10 / 20 Hz
EXPORT	Data Point Generating Rate	150,000 pts/sec	48,000 pts/sec
	Communication Interface	Industrial Ethernet	Industrial Ethernet
ELECTRIC	Input Voltage	9V~32V DC	9V~32V DC
	IP Grade	IP6K9K	IP6K9K
ENVIRON-MENT	Operating Temperature	-40°C ~ 85°C	-40°C ~ 85°C
	Storage Temperature	-40°C ~ 105°C	-40°C ~ 105°C
	Vibration Test	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
MACHINE	Weight	635g	635g
	Dimensions (LxWxH)	110x101.4x45 mm	110x92.5x45mm

HS1

Fast Scanning LiDAR

HS series fast scanning LiDAR has excellent detection accuracy and anti-interference performance, with 100m detection range, measurement accuracy ±2cm, and up to 200Hz scanning frequency can be real-time sensing high-speed moving objects, accurately grasp vehicle contour information, It is widely used in vehicle and cargo contour detection, vehicle type detection, height limit detection, overshooting detection, high-speed ETC capture detection, entry and exit vehicle type classification, traffic flow statistics, ETC.



Wavelength	905nm	Data Point Generating Rate	53,000 pts/sec
Laser Class	Class I	Communication Interface	Industrial Ethernet
Channels	1	Input Voltage	9V~36V DC
Detection Method	TOF	IP Grade	IP67
Detection Range	30 / 50 / 70 / 100m @10%	Operating Temperature	-20°C~65°C
Range Precision	±3cm	Vibration Test	5Hz-2000Hz, 3G rms
Horizontal FOV	120°	Shock Test	500m/sec², lasting for 11ms
Horizontal Resolution	0.09° / 0.18° / 0.225° / 0.27° / 0.36°	Weight	≈1600g
FPS	40 / 80 / 120 / 160Hz	Dimensions (LxWxH)	155x107.5x90 mm

LS-PTZ-150

LiDAR Rotary Scanner

LS-PTZ-150 is able to obtain real-time stable spatial three-dimensional data, and quickly analyze data through embedded 3D point cloud processing algorithm, achieving functions such as volume measurement, etc. The scanning range and scanning speed of the system can be flexibly configured, and real-time data output can be transmitted to computer, monitor or monitoring center through network transmission. It's a good solution for data collection, automation, and digitalization, which is widely used in mining, port automation, rail transportation, logistics and other fields.

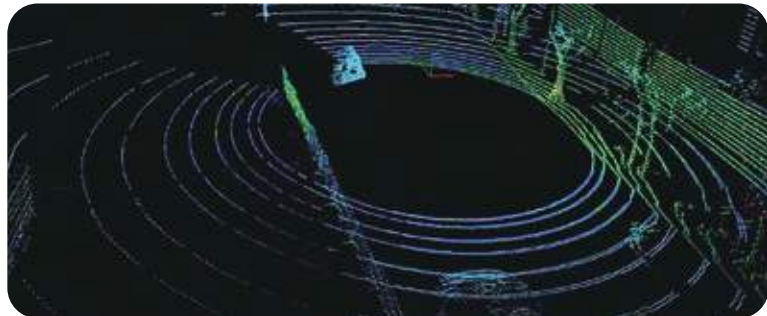


Wavelength	905nm	Angular Resolution (V)	0.024°
Laser Class	Class I	Data Point Generating Rate	150,000 pts/sec
Detection Range (Max)	150m	Communication Interface	Ethernet
Detection Range (Min)	1m	IP Grade	IP67
Range Precision	3cm	Operating Temperature	-20~60°C
Horizontal FOV	180°	Input Voltage	24V DC
Vertical FOV	120°	Weight	3500g
Angular Resolution (H)	0.02° (Min)	Dimensions(LxWxH)	426x102x157mm

C32/16

Multi-Line Mechanical LiDAR

C32/C16 LiDAR can realize 360° three-dimensional high-speed scanning with dense 32/16 laser beams. It has a detection range of up to 150m and measurement accuracy of ±1cm. It is widely used in autonomous driving, ADAS, intelligent transportation, service robots, logistics, surveying and mapping, security, ports, and industrial applications.



		C32 / C32 PoE	C16 / C16 PoE
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
SPEC	Channels	32	16
	Detection Method	TOF	TOF
	Detection Range	100m@10%, 150m@70%	100m@10%, 150m@70%
	Range Accuracy	±3cm	±3cm
	Range Precision	±1cm (1σ)	±1cm (1σ)
	Horizontal FOV	360°	360°
	Vertical FOV	-16°~15°	-16°~14°
	Horizontal Resolution	0.09°/ 0.18°/ 0.36°	0.09°/ 0.18°/ 0.36°
	Vertical Resolution	Uniform 1°	Uniform 2°
EXPORT	FPS	5 / 10 / 20Hz	5 / 10 / 20Hz
	Data Point Generating Rate	Single Echo 640,000 pts/sec Dual Echo 1,280,000 pts/sec	Single Echo 320,000 pts/sec Dual Echo 640,000 pts/sec
ELECTRIC	Communication Interface	Ethernet, PPS / 100M Industrial Ethernet	Ethernet, PPS / 100M Industrial Ethernet
	Input Voltage	12V~32V DC / 36~57V DC	12V~32V DC / 36~57V DC
ENVIRON-MENT	Power Consumption	12W (10Hz)	10W (10Hz)
	IP Grade	IP67	IP67
MACHINE	Operating Temperature	-20°C~60°C	-20°C~60°C
	Vibration Test	5Hz~2000Hz, 3G rms	5Hz~2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
	Weight	1040g / 1100g	1040g
	Dimensions (DxH)	Φ102x77.9 mm / Φ102x91.9 mm	Φ102x77.9 mm / Φ102x91.9 mm

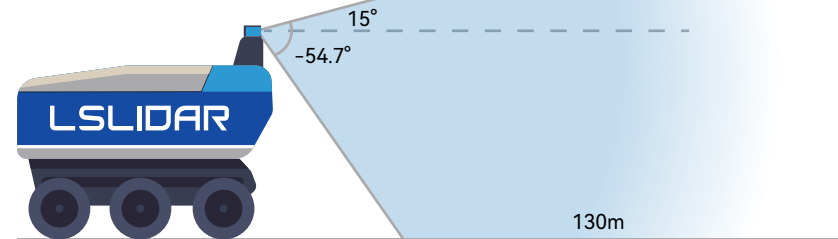
C32W Series

Wide FOV Mechanical LiDAR

C32W features an ultra-wide field of view of 360°x70°, focusing on scanning the space below the LiDAR to efficiently detect nearby obstacles and reduce detection blind spots. Its PoE version uses a single Ethernet cable for both power and data transmission, simplifying wiring, reducing costs, and supporting power supply up to 100m, thereby enhancing system flexibility and installation convenience.



- High point density, generating approximately 600,000 point clouds per second
- 360° wide field of view scanning
- Smaller size and weight



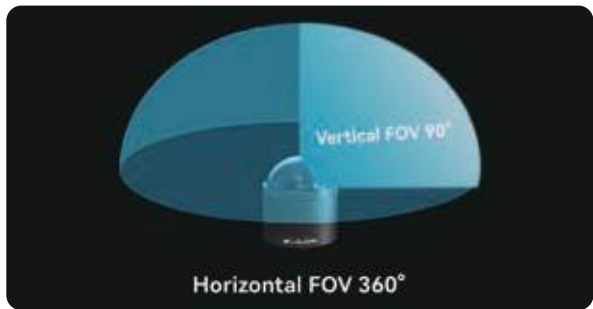
		C32W	C32W PoE
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
SPEC	Channels	32	32
	Detection Method	TOF	TOF
	Detection Range	80m@70%, 40m@10%	130m@70%, 60m@10%
	Range Accuracy	±3cm	±3cm
	Range Precision	±1cm (1σ)	±1cm (1σ)
	Horizontal FOV	360°	360°
	Vertical FOV	-54.7°~15°	-54.7°~15°
	Horizontal Resolution	0.09°/ 0.18°/ 0.36°	0.09°/ 0.18°/ 0.36°
	Vertical Resolution	Nonuniform, Min 1.5°	Nonuniform, Min 1.5°
EXPORT	FPS	5 / 10 / 20Hz	5 / 10 / 20Hz
	Data PointGenerating Rate	600,000 pts/sec	600,000 pts/sec
ELECTRIC	Communication Interface	Ethernet 100base-TX, PPS	100M Industrial Ethernet
	Input Voltage	9V~32V DC	9V~32V DC
ENVIRON-MENT	Power Consumption	12W	12W
	IP Grade	IP67	IP67
MACHINE	Operating Temperature	-20°C~60°C	-20°C~60°C
	Vibration Test	5Hz~2000Hz, 3G rms	5Hz~2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
	Weight	≈1115g	≈1150g
	Dimensions (DxH)	Φ102x102 mm	Φ102x116 mm

CH32R/CH16R

Ultra-Wide FOV Blind Spot LiDAR

CH16R/32R LiDAR uses 16/32 laser beams to achieve 360° three-dimensional high-speed scanning. It features a maximum vertical field of view of nearly 90°, a detection range of up to 120m, an accuracy of ±1cm, and a minimum vertical resolution of 2.61°.

It is widely used in autonomous driving, ADAS, intelligent transportation, unmanned forklifts, service robots, logistics, surveying and mapping, security, ports, and industrial applications.



CH32R / CH32R PoE

CH16R

LASER	Wavelength	905nm		905nm	
	Laser Class	Class I		Class I	
SPEC	Channels	32		16	
	Detection Method	TOF		TOF	
	Detection Range	120m@70%, 30m@10%		120m@70%, 30m@10%	
	Range Accuracy	±3cm		±3cm	
	Range Precision	±1cm (1σ)		±1cm (1σ)	
	Horizontal FOV	360°		360°	
	Vertical FOV	2.487° ~89.105°		2.487° ~52.798°	
	Horizontal Resolution	0.09° / 0.18° / 0.36°		0.09° / 0.18° / 0.36°	
	Vertical Resolution	Min 2.61°		Min 2.618°	
	FPS	5 / 10 / 20Hz		5 / 10 / 20Hz	
EXPORT	Data Point Generating Rate	Single Echo 640,000 pts/sec Dual Echo 1,280,000 pts/sec	Single Echo 320,000 pts/sec Dual Echo 640,000 pts/sec		
	Communication Interface	Ethernet 100base-TX、PPS /100M Industrial Ethernet		Ethernet 100base-TX、PPS	
ELECTRIC	Input Voltage	12V~32V DC / 36~57V DC		12V~32V DC	
	Power Consumption	12W (10Hz)		10W (10Hz)	
ENVIRON-MENT	IP Grade	IP67		IP67	
	Operating Temperature	-20°C~60°C		-20°C~60°C	
	Vibration Test	5Hz-2000Hz, 3G rms		5Hz-2000Hz, 3G rms	
	Shock Test	500m/sec², lasting for 11ms		500m/sec², lasting for 11ms	
MACHINE	Weight	1000g / 1050g		1000g	
	Dimensions (DxH)	Φ100x110mm / Φ100x124mm		Φ100x110mm	

C1

Single-Line Mechanical LiDAR

C1 single-line mechanical LiDAR uses the TOF measurement principle to achieve 360° high-speed scanning of the surrounding environment. It has a detection range of up to 120m and a measurement accuracy of ±1cm.

It is primarily used in indoor service robot, AGV, and UAV that requires precise positioning and obstacle avoidance.

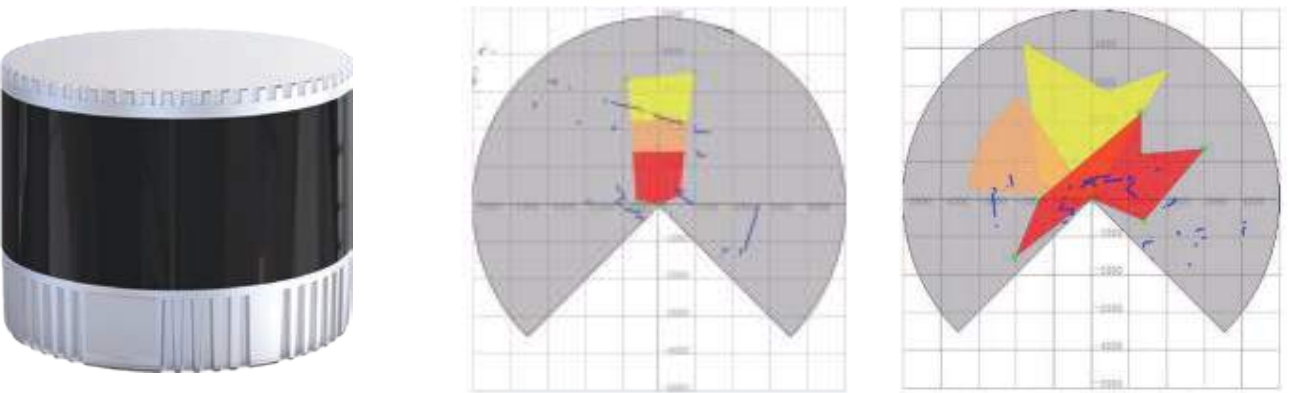


Wavelength	905nm	FPS	5 / 10 / 20Hz
Laser Class	Class I	Data Point Generating Rate	Single Echo 20,000 pts/sec Dual Echo 40,000 pts/sec
Channels	1	Communication Interface	Ethernet 100base-TX, PPS
Detection Method	TOF	Input Voltage	9V~32V DC
Detection Range	120m@70%, 100m@10%	Power Consumption	7W (10Hz)
Range Accuracy	±3cm	IP Grade	IP67
Range Precision	±1cm (1σ)	Operating Temperature	-20℃~60℃
Horizontal FOV	360°	Vibration Test	5Hz-2000Hz, 3G rms
Vertical FOV	N/A	Shock Test	500m/sec², lasting for 11ms
Horizontal Resolution	0.09°/0.18°/0.36°	Weight	1050g
Vertical Resolution	N/A	Dimensions (DxH)	Φ102x77.9 mm

CW1

Anti-collision Mechanical LiDAR

CW1 Anti-collision mechanical LiDAR uses the TOF measurement principle to achieve 360° high-speed scanning of the surrounding environment. It has a detection range of up to 10m and a measurement accuracy of ±1cm. It is primarily used in indoor service robot, AGV, and UAV that requires precise positioning and obstacle avoidance.



Wavelength	905nm	FPS	10Hz
Laser Safety	Eye-safe	Data Point Generating Rate	Single Echo 20,000 pts/sec
Channels	1	Communication Interface	Industrial Ethernet /CAN/RS485/IO
Detection Method	TOF	Input Voltage	9V~32V DC (Maximum: 36 V)
Detection Range	150 m (@70% reflectivity)	Power Consumption	7W (10Hz)
Range Accuracy	±3cm	IP Grade	IP67
Range Precision	±1cm (1σ)	Operating Temperature	-20°C~60°C
Horizontal FOV	360°	Vibration Test	5Hz-2000Hz, 3G rms
Vertical FOV	N/A	Shock Test	500m/sec², lasting for 11ms
Horizontal Resolution	10 Hz: 0.18°	Weight	1050g
Vertical Resolution	N/A	Dimensions (DxH)	Φ102x77.9 mm

C4/C8

Multi-Line Mechanical LiDAR

C4/C8 LiDAR utilizes 4/8 laser beams to achieve 360° three-dimensional high-speed scanning. It has a detection range of up to 120m, with a measurement accuracy of ±1cm and a minimum vertical angular resolution of 2°. It is widely used in autonomous driving, ADAS, intelligent transportation, unmanned forklifts, service robots, logistics, surveying and mapping, security, ports, and industrial applications.



		C4	C8
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
	Channels	4	8
	Detection Method	TOF	TOF
	Detection Range	120m@70%, 100m@10%	120m@70%, 100m@10%
	Range Accuracy	±3cm	±3cm
	Range Precision	±1cm (1σ)	±1cm (1σ)
	Horizontal FOV	360°	360°
	Vertical FOV	-12°~12°	-12°~12°
	Horizontal Resolution	0.09° / 0.18° / 0.36°	0.09° / 0.18° / 0.36°
SPEC	Vertical Resolution	Min 4°	2°/4°
	FPS	5 / 10 / 20Hz	5 / 10 / 20Hz
	Data Point Generating Rate	Single Echo 80,000 pts/sec Dual Echo 160,000 pts/sec	Single Echo 160,000 pts/sec Dual Echo 320,000 pts/sec
	Communication Interface	Ethernet 100base-TX, PPS	Ethernet 100base-TX, PPS
	Input Voltage	9V~36V DC	9V~36V DC
	Power Consumption	9W(10Hz)	10W(10Hz)
	IP Grade	IP67	IP67
	Operating Temperature	-20°C~60°C	-20°C~60°C
	Vibration Test	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
EXPORT	Weight	1050g	1050g
	Dimensions (DxH)	Φ102x77.9 mm	Φ102x77.9 mm
ELECTRIC			
ENVIRON-MENT			
MACHINE			

C16E Series

Explosion-Proof / Flameproof LiDAR

C16E series LiDAR is capable of three-dimensional scanning and detection of the surrounding environment. With a horizontal field of view of 360° and a vertical field of view of -15°~15°, there is no blind spot. Its detection range is up to 150 meters and maximum point generating rate is 640,000 points/second. C16E series also supports IP 67 which makes it dust and water resistant.



Explosion-Proof LiDAR
(Ex ib I Mb)



Flameproof LiDAR
(Ex d IIC T6 Gb)

Wave Length	905nm	FPS	5 / 10 / 20Hz
Laser Class	Class I (IEC-60825)	Point Rate	Single echo 320,000 Double echo 640,000pts/sec
Channels	16	Communication Interface	Industrial Ethernet
Measurement Principle	TOF	Input Voltage	9V~36V DC
Detect Distance	100m(50@10%)	IP Grade	IP67
Accuracy	±3cm	Operating Temperature	-20°C~60°C
Horizontal FOV	360°	Ex-mark (Exib)	Ex ib I Mb
Vertical FOV	30°(-15°~15°)	Ex-mark (Exd)	Ex d IIC T6 Gb
Horizontal Resolution	5Hz:0.09°/ 10Hz:0.18°/ 20Hz:0.36°	Weight	800g / 1500g
Vertical Resolution	2°	Dimensions (DxH)	Φ102x81mm / Φ176x100 mm

M10 Series

Navigation & Obstacle Avoidance LiDAR

The M10 series LiDAR uses the TOF measurement principle to achieve 360° two-dimensional scanning and detection of the surrounding environment. This series of LiDAR uses wireless power supply and optical communication internally. It is designed with a detection accuracy of ±3cm and a maximum range of 25m. It is mainly applied in scenarios requiring precise positioning and obstacle avoidance, such as indoor service robots, AGVs, cleaning and disinfection robots, and drones.



- Wide recognition range, long-distance measurement, and fast response.
- Optimized algorithm for faster, more accurate mapping.
- Strong anti-light interference for indoor and outdoor use.
- Advanced optics and low SNR control for excellent detection of strong light, high reflectivity, and low reflectivity objects.
- Lightweight and compact design for embedding in various machines.

	M10	M10P PHY
Wavelength	905nm	905nm
Laser Class	Class I	Class I
Output Data	Distance、Angle	Distance、Angle
Detection Distance	10m@10%, 25m@70%	10m@10%, 25m@70%
Range Precision	±3cm	±3cm
Pulse Repetition Frequency	10KHz	20KHz
FPS	10 / 20Hz	12Hz
Data Point Generating Rate	10,000 pts/sec	20,000 pts/sec
Date Output Resolution	1mm	1mm
Angular Resolution	0.36° / 0.72°	0.22°
Input Voltage	4.75~5.25V (Serial Port)	9~32V DC
IP Grade	IP65	IP65
Operating Temperature	-20°C~50°C	-10°C~50°C
Storage Temperature	-30°C~70°C	-20°C~60°C
Communication Interface	Standard asynchronous serial port(Baud rate 460,800 bps)	Ethernet port
Vibration Test	500m/sec ² , lasting for 11ms	500m/sec ² , lasting for 11ms
Shock Test	> 80K Lux	> 80K Lux
Weight	≈200g	≈200g
Dimensions (DxH)	Φ79.6x39mm	Φ79.6x39mm

N10

Navigation & Obstacle Avoidance LiDAR

N10 LiDAR uses the TOF measurement principle to achieve 360° two-dimensional scanning and detection of the surrounding environment. It uses wireless power supply and optical communication internally, with an emission frequency of 4.5 KHz, a detection accuracy of ±3cm, and a maximum range of 12m.

It is mainly applied in scenarios requiring precise positioning and obstacle avoidance, such as indoor service robots, AGVs, cleaning and disinfection robots, and drones.



- Optimized algorithm for faster, more accurate mapping.
- Strong anti-light interference for robot mapping, navigation, and obstacle avoidance.
- Excellent detection of strong light, black and white objects, and high-reflectivity objects.
- Lightweight and compact design for embedding in various service robots.

Wavelength	905nm	Data Point Generating Rate	4,500 pts/sec
Laser Class	Class I	Communication Interface	Standard asynchronous serial port(Baud rate 230,400 bps)
Output Data	Distance、Angle、Intensity	Input Voltage	5V DC (4.75V~5.25V DC)
Detection Distance	0.02~12m@70%	Power Consumption	1W
Range Precision	±3cm(0~6m); ±4.5cm(≥6m)@70%	Operating Temperature	-10°C~40°C
PRF	4.5KHz	IP Grade	IPX-4
Scanning Angle	360°	Anti-light	4K lux
FPS	6~12Hz	Weight	≈60g
Angular Resolution (H)	0.48°~0.96°	Dimensions (DxH)	Φ52x36.1 mm

N301-P

Navigation & Obstacle Avoidance LiDAR

The N301-P LiDAR can perform 360° omnidirectional scanning of the surrounding environment, achieving precise two-dimensional detection with a range of up to 50m. With an IP67 rating for dust and water resistance, it can operate stably in various harsh environments.

It supports intrinsic safety explosion-proof certification, making it widely applicable in scenarios such as gas stations, chemical plants, liquefied gas stations, oil extraction, ground patrol, and inspection, providing efficient and safe solutions.



Wavelength	905nm	FPS	5 / 10 / 20Hz
Laser Class	CLASS 1	Data Point Generating Rate	20,000 pts/sec
Detection Method	TOF	Communication Interface	100M Ethernet
Detection Range	10 / 20 /30 / 40 / 50m	Input Voltage	9~32VDC(Typical Input 12/24VDC)
Range Resolution	2 mm(1.6 Protocol) ; 4 mm(1.7 Protocol)	Power Consumption	≈4W
Output Data	Distance、Angle	Operating Temperature	-20°C~60°C
Range Accuracy	±3cm	Weight	≈406g
FOV	360°	Dimensions (DxH)	Φ80*79.1mm
Angular Resolution (H)	0.09° / 0.18° / 0.36°		

N301 Series

Explosion-Proof / Flameproof LiDAR

After rigorous testing and verification, LSLiDAR has launched the N301 series of explosion-proof and flameproof LiDARs specifically designed for complex, flammable and explosive environments. This series of LiDARs is capable of conducting a comprehensive 360° scan of the surrounding environment, achieving precise 2D detection. With a detection range of up to 50m and a measurement rate of up to 20,000 points per second, the LiDARs also boast an IP67 dust and water resistance rating, ensuring stable operation in various harsh environments. Widely applicable in scenarios such as gas stations, chemical plants, liquefied gas stations, oil exploration, ground patrols, and inspection.



Explosion-Proof LiDAR N301
(Ex ib I Mb)



Flameproof LiDAR N301
(Ex d IIC T6 Gb)

Wavelength	905nm	Communication Interface	100M Ethernet
Laser Class	CLASS 1	Output Data	Distance, Angle
Channels	1	Input Voltage	9~32VDC (Typical Value 12/24VDC)
Detection Method	TOF	Drivers	Brushless Motor
Detection Range	10 / 20 / 30 / 40 / 50m	Power Consumption	4W
Distance Resolution	2 mm / 4 mm	Operating Temperature	-20°C ~ 60°C
Range Precision	±3cm	Anti-light	80 K Lux
Horizontal FOV	360°	Vibration Test	5Hz-2000Hz, 3G rms
Horizontal Resolution	0.09° / 0.18° / 0.36°	Shock Test	500m/sec ² , lasting for 11ms
FPS	5 / 10 / 20Hz	Weight	≈406g(Explosion-Proof)
Data Point Generating Rate	20,000 pts/sec	Dimensions (DxH)	Φ80x79.1mm(Explosion-Proof)

MD01

Dual-Channel Underwater Mapping LiDAR

MD-01 is a dual-channel airborne & shipborne LiDAR system that provides two different LiDAR channels, namely green light and infrared (IR). It can collect complementary scanning data, resulting in two independent point cloud distribution maps with reflectivity. With the specific green laser wavelength channel, underwater targets can be measured, offering partial hydrographic measurement capabilities.

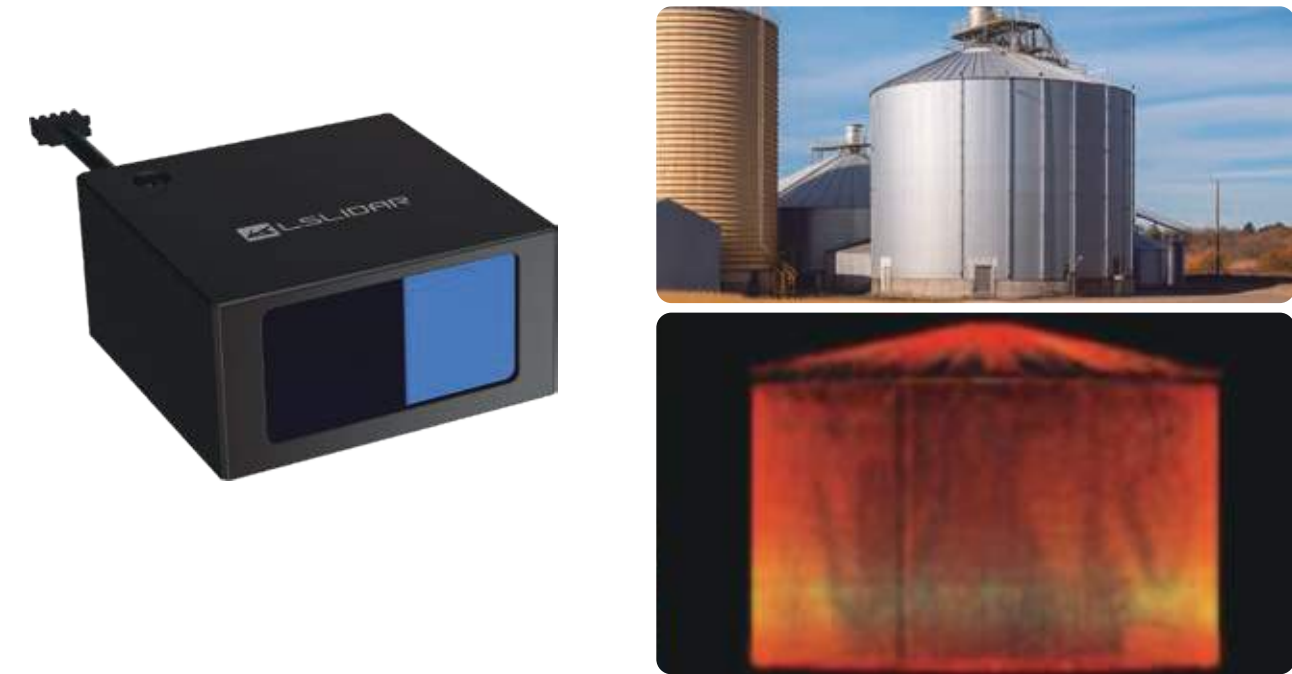


LASER	Land Wavelength	1064nm Infrared Laser	Shallowest Sounding	≥0.35m
	Sea Wavelength	532nm Green Laser	Sounding Accuracy	0.25m
	Measurement Data Frequency	10kHz	Sounding Ability	1.5SD (50 m Flight Height)
	FPS	20Hz	Planimetric Accuracy	0.5m
	Scanning Width	40°	Weight	< 10kg
	Scanning Mode	Elliptical / Single Line	Dimensions (L*W*H)	380x230x250(mm)
	Laser Spot	5cm (50 m Flight Height)	Input Voltage	DC 20 V ~32 V
	Laser Beam Direction Angle	0.01°	Power Consumption	< 120W
	Suitable Flight Altitude	5 m~200 m	Display	Waveform display, three-dimensional point cloud, seabed topography
IMU	Positional Accuracy	Better than 5cm	Pitch, Roll	0.04°
	Positioning Mode	Multi-constellation support, RTK, PPK	GNSS Orientation	0.1°
	1 PPS Accuracy	20ns	Speed	0.05m/s
	Positioning FPS	≥10Hz	Attitude Data Update Rate	200Hz
DOMAIN CONTROL	External Interface	1*USB3.X interface (copy hard disk data for post-processing), 1* power interface (communicate with drone), 1* 100M Ethernet port (shared by two radar point clouds), 1* 1000M Ethernet port (shared by two LiDARs original waveform data), 1 x Ethernet port, 1 x communication port		

LS72B

Middle-Range Laser Distance Sensor

LS72B utilizes TOF measurement principle to perform distance detection at a fixed angle. It offers a detection accuracy of ±5 cm and a maximum range of 100 meters. It is primarily used in applications requiring precise distance measurement and obstacle avoidance, such as flying cars, indoor service robots, AGVs, cleaning and disinfection robots, and drones.It can also be used for volume measurement in applications such as grain silos and coal piles.



Wavelength	905nm	Power Consumption	2W
Laser Class	Class I	Input Voltage	6~18 V
Detection Range	0.2~ 100 m (@10%)	Operating Temperature	-40°C~85°C
Range Precision	±5 cm (1σ)	Storage Temperature	-50°C ~ 105°C
FPS	10 Hz~ 200 Hz (Adjustable)	IP Grade	IP67
Echo Frequency	Single Echo	Weight	≈230g
Communication Interface	CAN / RS232	Dimensions (LxWxH)	70*70*35mm

LS72D

eVTOL Laser Altimeter

The LS72D is a laser altimeter specifically designed for drones, helicopters, and eVTOL aircraft. It has a detection range of up to 150 meters and a maximum frequency of 200 Hz, providing real-time distance measurement and altitude maintenance to ensure safe landings.



Wavelength	905nm	Input Voltage	9~16V
Detection Method	TOF	Power Consumption	≤2W
Laser Class	Class I	Operating Temperature	-40°C ~ +85°C
Channels	1	Storage Temperature	-40°C ~ +85°C
Detection Range	0.2m~150 m (@10%)	IP Grade	IP X9K
Range Precision	±5cm (@≤10m) , 1% (@>10m)	Weight	≤200g
FPS	50 Hz~ 200 Hz	Dimensions (LxWxH)	60*36*38mm
Communication Interface	CANFD*2		

LS74A

Long-Range Single-Point Distance Sensor

LS74A utilizes the TOF measurement principle to perform distance measurement at a fixed angle. The measurement accuracy is ±1m, with a maximum range of 1500m. It is applicable in various scenarios such as optoelectronic system, electro-optical pod, rangefinders, infrared thermal imagers, scopes, targeting devices, and obstacle avoidance for aircraft.



Wavelength	905nm	Power Consumption	≤1.5W
Detection Method	TOF	Communication Interface	Serial Port-TTL
Detection Range	10~1500m@10%	Operating Temperature	-20°C~65°C
Range Precision	± 1m (1σ)	Storage Temperature	-20°C~85°C
FPS	1 ~ 10 Hz (Adjustable)	IP Grade	-
Echo Frequency	Single Echo	Weight	22g
Input Voltage	3~12V	Dimensions (LxWxH)	23x47mm



INTELLIGENT TRANSPORTATION SYSTEM(ITS) SOLUTION

LiDAR INDUSTRY APPLICATION SOLUTIONS

V2X Roadside Perception System

LSLiDAR V2X Roadside Perception System is based on the data fusion of LiDAR and Camera, via leading neural networks algorithms to realize the precise localization and identification of the vehicles, non-motor vehicles, as well as pedestrians on the road, then by live transmission to traffic control authority and the permitted vehicles, which can realize early warning of road conditions and dangers, improve the safety and redundancy of autonomous driving, and bring a safe, efficient, and environmentally friendly road traffic system.



LS Series



C32/C16



CH128X1

Accurate detection

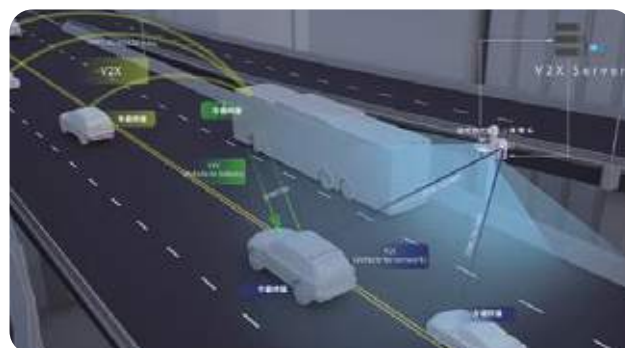
Full road coverage

Accurate identification of target attributes

Event judgment



All-Round detection coverage without any blind zone



Effect of visual identification and classification

APPLICATION CASES

The different landing projects were deployed in cities such as Beijing, Shanghai, Guangzhou, Shenzhen, Zhengzhou, Chongqing, Xian, Tianjin, Wuhan, Suzhou, Xuchang, Changzhou etc., which were covered on the traffic lights, accident blackspot, blind zones, the intersection of roads, the bridges and tunnels, the zones nearby the school etc.



Tianjin



Guangzhou



Xian



Nanjing



Beijing



Shenzhen

Multi-Functional 5G Intelligent Traffic Lights

■ FIXED INTELLIGENT TRAFFIC LIGHTS ON ROADSIDES

Based on the V2X system, connecting the intelligent detection system to the traffic lights enables self-adaptive smart control of the lights flashing time and passing direction in accordance with the traffic flow at the junctions, improving traffic efficiency.



■ MOBILE INTELLIGENT TRAFFIC LIGHTS



Autonomous Mobile Versions

Hand-pushed

LSLIDAR's multi-functional 5G intelligent traffic lights integrate LiDAR, camera, millimetre wave radar, intelligent traffic light, intelligent signal machine, intelligent roadside unit (5G RSU), combined inertial navigation equipment, mobile power, etc. Equipped with AI algorithms, it can detect the location coordinates, category, ID, speed, and size of the target, and further determine whether there are traffic events such as "reverse driving", "traffic congestion", "road spillage", "slow moving vehicles", "abnormal lane change", "red light running", etc. to achieve early warning of dangerous road conditions and improve the efficiency of urban traffic operation.

LSLIDAR's multi-functional 5G intelligent traffic lights are available in both hand-pushed and autonomous mobile versions. The autonomous mobile version saves manpower by moving independently to the destination as entered by the staff.

● OUTSTANDING ADVANTAGES

 Self-adaptive intelligent control of the traffic lights	 Easy to deploy and quick to put into use	 Mobile and flexible, supporting multiple scenarios	 Integrated design, multiple data sources	 Flexible and convenient power and network supply
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● APPLICATIONS

- It can be installed at intersections of public roads to help build a safe, efficient and environmentally friendly road traffic system and improve the traffic operation efficiency of cities.
- It is suitable for use in intelligent network test zones, demonstration zones, higher education institutions and research institutes, etc., to create realistic IoV (Internet of Vehicles) application scenarios for talent training, meet research needs and enhance students' IoV theoretical and practical abilities.



Highway intersection



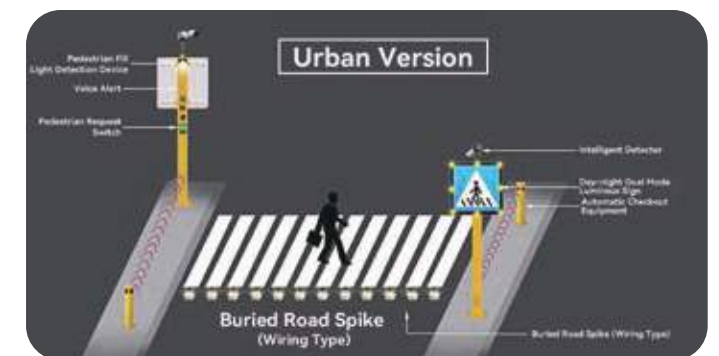
Intelligent network test zone



Colleges and universities or institutions

Intelligent Pedestrian Crossing

Based on the V2X system, the intelligent detection system is connected to the stud lights on the zebra crossing. Pedestrians passing by will trigger the stud lights to quickly flash and the safety voice broadcast. At night, the stud lights will change colors with the traffic lights. Red-light running will also trigger camera capture, stud lights flashing and voice alarming. The intelligent pedestrian crossing provides better protection for pedestrians crossing junctions and also alerts vehicles at junctions to avoid pedestrians.



Intelligent pedestrian crossing

High-Way ETC Activation System

The non-contact fixed ETC trigger system independently developed by LSLiDAR adopts the most advanced laser scanning technology to accurately detect the arrival of vehicles. With excellent performance in detection accuracy, anti-interference and accuracy rate, as well as stable working ability under all-weather conditions, this safe and reliable system is suitable for ETC-triggered camera capture on highways.

LiDAR products
required for high-speed
ETC triggering



ADVANTAGES

1

The system uses state-of-the-art laser scanning technology to accurately identify the arrival of vehicles. The vehicle capture rate of the camera is as high as 99%, and the license plate recognition rate is over 98%. (When the camera is properly focused and the license plate is not defaced or blocked.)

2

With stable performance under all-weather conditions and high measurement accuracy, the system is able to output the distance, orientation, size and other information of the vehicle

3

The same vehicle can be captured multiple times (3-4 times recommended) to ensure the accuracy of the image information.

4

It can be used for the detection of complex road conditions, such as large traffic flow, multi-vehicle parallelism, and cross-track driving.

APPLICATIONS



When a moving vehicle enters the set capture point, the LiDAR trigger system can send a trigger signal to instruct the corresponding camera to capture. According to the set number of snapshots, a corresponding number of snapshot images of the vehicle will be obtained. At the same time, one device in the system can detect multiple lanes, and the detection of each lane is independent and does not interfere with each other.

Vehicle Classification System

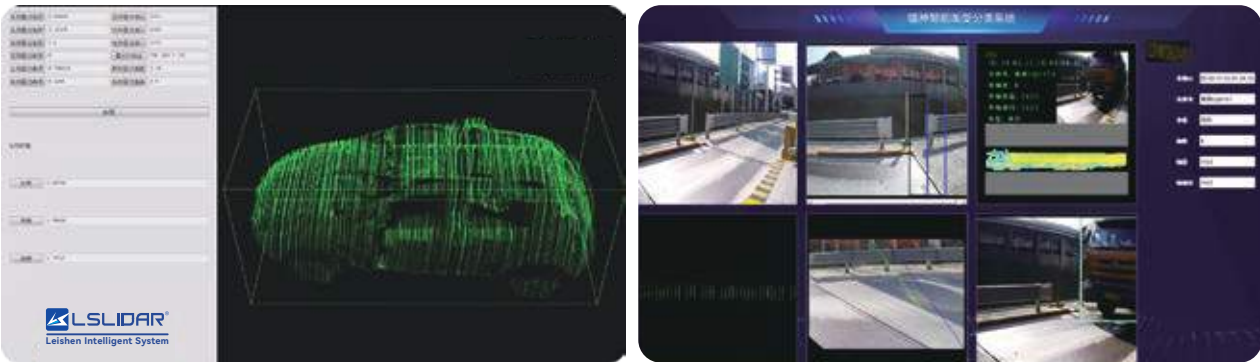
The Vehicle Type Classification System, according to the Highway Freight Vehicle Overload Recognition Standard, is capable of fully automatically identify the axle type of 2-6 axle freight vehicles, including the number of vehicle axles, the number of drive axles, axle arrangement and standard limits, and the ability to identify the axle type of trucks with more than 6 axles is reserved.

High Identification
Rate

Precise
Identification

Accurate
Match

All-Day
Detection



Vehicle Contour Detection Solution

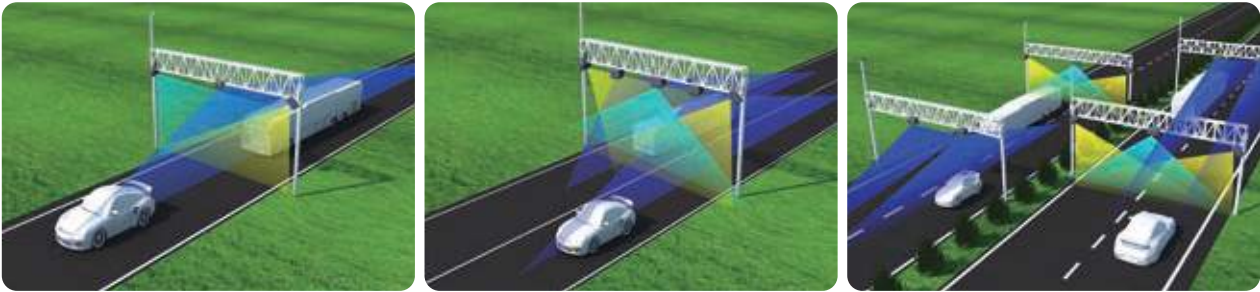
Vehicle Contour Detection System is a set of fully automatic non-contact equipment for vehicle length, width and height detection, using the most advanced high-speed Lidar as a sensor, the detection accuracy is significantly higher than other current non-contact detection technologies, such as microwave, video, etc., and has a strong anti-interference ability to work stably around the clock.

Real-Time Modeling

Accurate Detection

Status Monitoring

Self-Monitoring

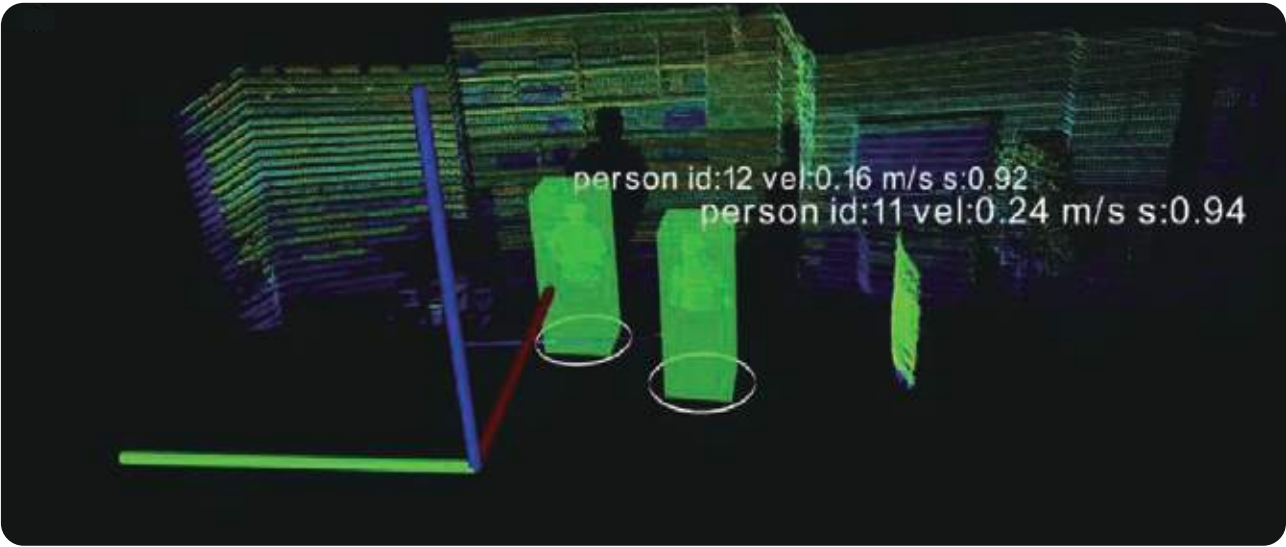


Real-Time Flow Counting System

The system uses LiDAR to detect personnel in the monitored area in real-time, count and output the number of detected personnel in each region, and obtain the current location, speed, and direction of the personnel. It can also track targets, assisting management in controlling crowd flow and security in key areas. This system can be applied in intelligent transportation, security, campuses, and other fields.

●MAIN FEATURES

- Real-time detection of multiple targets.
- Statistical counting of personnel in different scenarios.
- Acquisition of personnel movement direction information and trajectory tracking.
- Strong adaptability, stable operation around the clock, unaffected by wind, lighting, temperature changes, etc.
- Configurable monitoring area to eliminate interference and reduce false alarms.
- High privacy, only outputs status parameters without any audio or video information collection.



●APPLICATION FIELDS



Mall and store traffic statistics



Hotel and building personnel monitoring



B&B and low-rent housing personnel monitoring



Office and meeting room personnel monitoring



Restroom, nursery room, and changing room personnel monitoring



Hospital and nursing home personnel monitoring



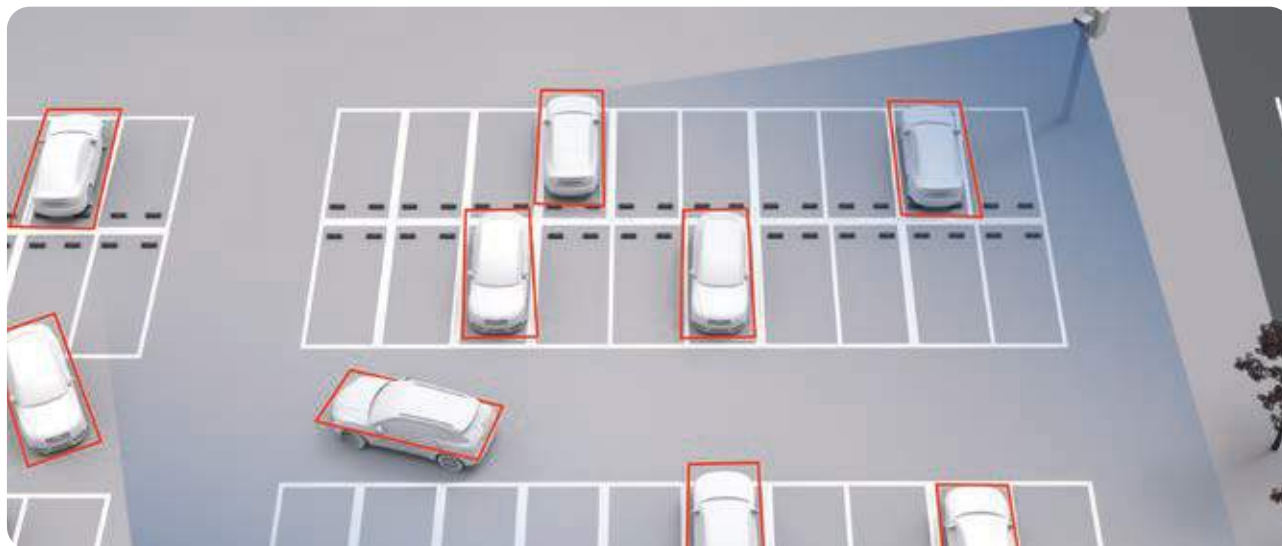
Pedestrian monitoring at city crosswalks

Intelligent Parking System

The LSLiDAR Intelligent Parking System is a parking management solution based on LiDAR technology. By using multiple LiDAR units for joint calibration, marking parking spot coordinates, recognizing vehicles through point cloud clustering algorithms, and matching vehicle parking status with parking spot occupancy, this system can improve the efficiency and service quality of parking lot management, providing users with a more convenient, comfortable, and safe parking experience.

●SYSTEM FUNCTIONAL APPLICATIONS

- Automatic recording of parking duration.
- Real-time monitoring of parking spot occupancy.
- Collection and analysis of parking spot operation data.
- Detection and recording of illegal parking.
- Integration and sharing of information across multiple parking lots.
- Intelligent parking guidance.
- Management of unauthorized occupation of charging spots.



●SYSTEM ADVANTAGES



- **High Portability:** LiDAR is not affected by lighting conditions, making it suitable for all types of parking lots (outdoor, indoor, large, small, day, night) with high portability.
- **Real-Time Monitoring:** Real-time monitoring of available parking spaces via LiDAR allows for quick guidance to find parking spots.
- **High Security:** Comprehensive deployment of monitoring and alarm equipment, combined with V2X system, covers blind spot monitoring and enhances traffic safety.
- **Cost Reduction and Efficiency Improvement:** Automation equipment enables unattended charging and management, reducing labor costs and human error, and improving management efficiency.

LiDAR 3D SLAM AGV / AMR SYSTEM KIT

LiDAR INDUSTRY APPLICATION SOLUTIONS



3D SLAM Unmanned Forklift / AMR Controller

3D SLAM unmanned forklift controller is a universal controller designed for industrial robots, which integrates 3D SLAM laser navigation algorithms, motion control algorithms, pallet recognition algorithms and 3D protection algorithms, and is suitable for a variety of forklift chassis, which can realize 3D mapping, positioning and navigation, path planning, safety and obstacle avoidance, 3D three-dimensional protection, pallet recognition, and automatic charging, and other functions, and quickly and easily complete the forklift unmanned transformation.

- High-Precision Real 3D SLAM
- All-Around 3D Protection
- Abundant Interfaces
- High Adaptability
- Quick Deployment & Easy Assembly



Support Multiple Chassis Models

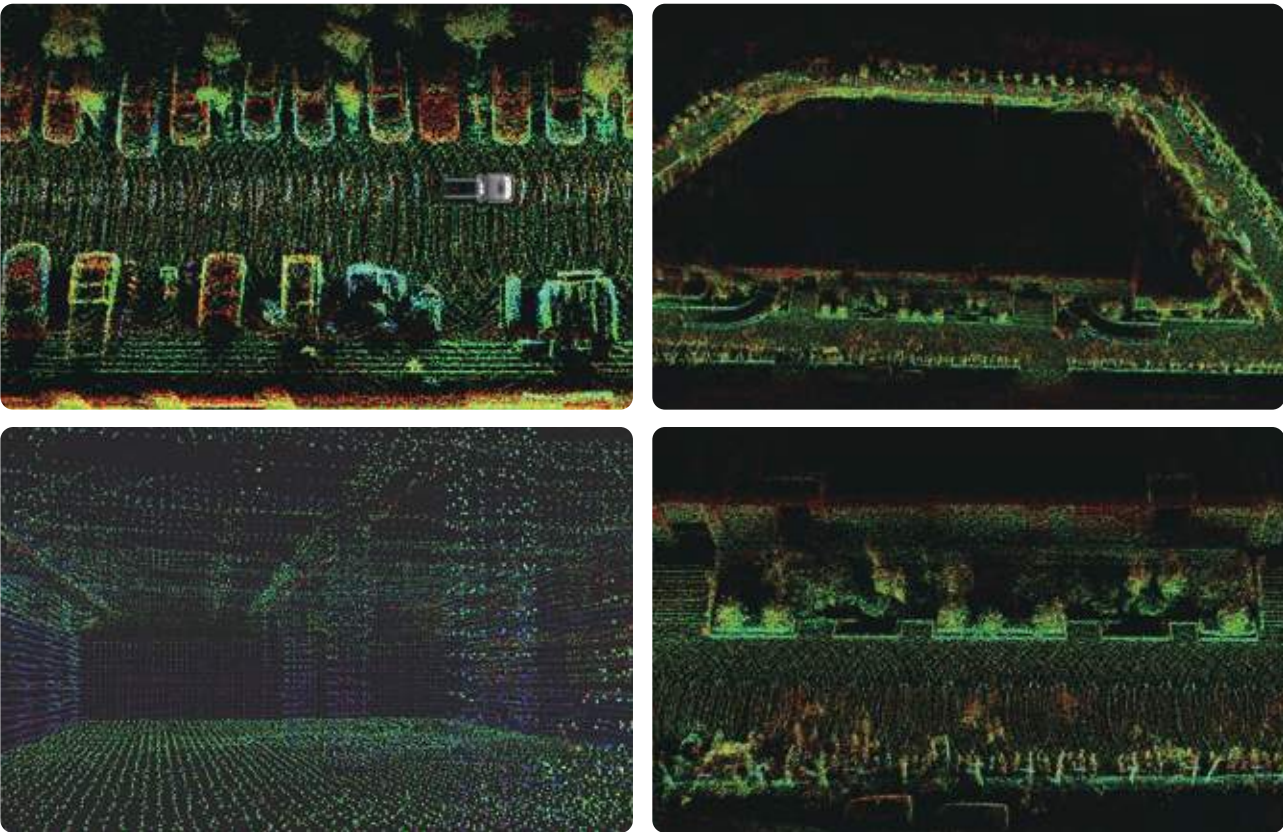
- Dual-drive Differential
- Four-drive Differential
- Twin-rudder Wheel (1)
- Twin-rudder Wheel (2)
- Four-rudder Wheel

3D Slam Mapping and Positing Kit

LX-3D SLAM Mapping and Positioning Kit is a core software and hardware product developed by LSLiDAR. With the 3D LiDAR as the main sensor, through the data fusion of LiDAR, IMU, odometer, GPS and other types of sensors, and together with high-performance processors, it achieves the mapping and position matching of the operating environment. The product is also equipped with an Ethernet communication interface to meet the user's precise positioning needs in various operating scenarios.



- Accurate and stable real-time 3D point cloud mapping
- Strong adaptability to various environments
- Convenient deployment and quick commissioning
- Low investment cost



HIGH-END SECURITY SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

LSLiDAR High-end Security System (hereinafter referred to as System) uses multi-sensor fusion equipment such as LiDARs, HD cameras, thermal imaging cameras and microwave radars, and integrates with advanced neural network algorithm to achieve active detection of illegal intrusion in the perimeter. Once any illegal intrusion, the System will link the HD dome cameras to monitor the intruded area, collect HD videos and images, locate and track the target in the key surveillance area, record the movement trajectories of the target, trigger the surveillance center to send alarms to enable a pre-warning.

● APPLICATIONS



Airports Perimeter Security



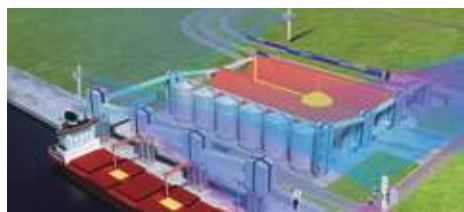
Nuclear Power Stations Security



Prisons and Detention Houses Security



Museums and Other Important Places Security



Port Terminals Security



Subway and Railway Platforms Security

LSLiDAR High-end Security Solution is applied in a wide range of fields such as airports, port terminals, mine areas, museums, high-speed railway stations, ship security, oil depots, hazardous goods storage areas, chemical plants, prisons and detention houses, coastline security, plant and animal protection, forest safety prevention zones, water protection zones, hydro-electric power, nuclear power stations, special camps, special warehouses, special parks and other places.

● OUTSTANDING ADVANTAGES

Compared with the passive defense of surveillance technology and sensor alarm technology and shortages of intelligent image analysis technology in environmental applications, the System based on the deployment of 3D LiDAR has outstanding advantages.

1

Wild Detection Range

The detection range reaches up to 2 kilometers, effectively making up for the limitation of human eyes' visual distance.

2

Proactive Defense

The 3D LiDAR links the camera to achieve detection, proactively locating the real-time 3D coordinates, GPS coordinates and movement trajectories of the intruders.

3

All-Day Operation

The System is not affected by sunlight or bad weathers and applicable to most outdoor scenarios. It works well even in bright light or at night, which enables a 24/7 stable operation.

4

Intelligent Algorithm Identification

The intelligent algorithm accurately identifies the target attributes based on the detected data, and reserves the detected data to provide the data basis for predicting the target's behaviors.

5

Multi-Targets and Multi-Areas Track

The System can set multiple independent detection areas at one time, and can also set non-detection areas, without personnel on tracking.

6

Linkage Alarm Devices

Once any intrusion target is detected, the System will trigger the surveillance center, send alarms and upload the videos. The System also supports setting alarms for intrusion in the detection range at different areas and different time periods.

7

Solar Powered

The System supports solar power, transmits signals through 5G/4G network, and able to work in remote areas where there are difficulties for power supply.



RAILWAY INTRUSION DETECTION SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

LSLiDAR has been empowering industrial upgrading with high-end, stable and reliable LiDAR environment perception technology. In response to the intelligent and automated development needs of rail transit, LSLiDAR has independently developed a number of LiDAR rail transit application solutions.



LS25 Series



CH128X1

Train-end Intelligent Monitoring System for Obstacle Intrusion

Active
Monitoring

Anti-Glare

All-Time

Real-Time
Warning

High Resolution
High Precision
High Density

Vision Fusion

Intelligent Roadside Monitoring System of Railway for Obstacle Intrusion

Active
Monitoring

Anti-Glare

All-Time

Real-Time
Warning

High Resolution
High Precision
High Density

Vision Fusion

Obstacle Detection System of Subway Screen Door

Real-Time
Warning

Anti-Glare
&Anti-Shock

Flexible Setting
of Scanning Area

All-Time
Operation

High Resolution
High Precision
High Density

Train Contour Detection System

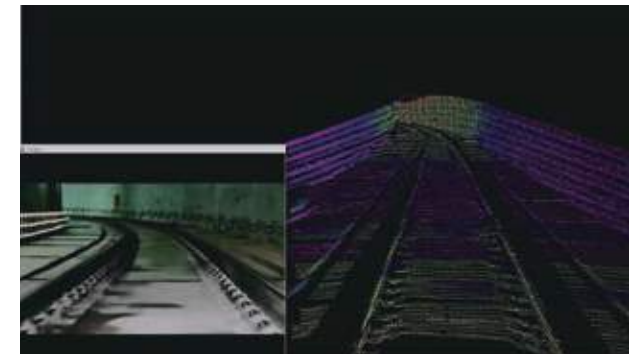
Non-stop Measurement

Easy Installation
and Maintenance

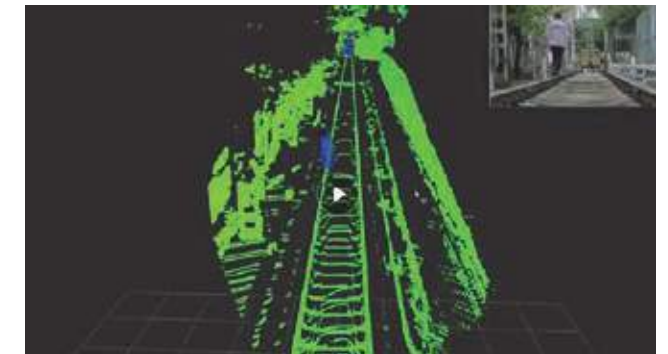
Efficient Work All Day

Self-monitoring

●INSTALL EFFECTS



Intelligent Monitoring
Solution for Foreign Body
Intrusion to Medium and Low
Speed Train Tracks



Intelligent Monitoring
Solution for Foreign Body
Intrusion to High Speed
Train Tracks



Fixed-point Intelligent
Monitoring Solution for Track
Foreign Body Intrusion



Subway Screen Door Foreign
Body Detection Solution
(Door End)



Subway Screen Door Foreign
Body Detection Solution
(Car End)



Platform Anti-drop
Monitoring Solution



Intelligent Monitoring
Solution for Shelters in High-
speed Railway Stations



Tunnel Contour Detection
Solution



Railway Turnout Deformation
Detection Solution

TAILORED LiDAR & SOLUTION FOR INTELLIGENT DRIVING

LiDAR INDUSTRY APPLICATION SOLUTIONS

Multi-Sensor Fusion Environment Perception System

LSLiDAR's multi-sensor fusion environment perception system combines sensors including LiDAR, camera, millimeter wave radar, taking advantage of function complementarity and leading neural network algorithm to ensure the safety redundancy of autonomous driving, can accurately identify vehicles, lanes, traffic lights, road signs, pedestrians and obstacles.

High safety redundancy

Accurate positioning and navigation

Deep Learning

Multiple LiDAR Alternatives



Autonomous Emergency Braking (AEB)

Autonomous emergency braking system (AEB) could measure the distance and relative speed of the vehicle in front through LiDAR and camera. When the front vehicle brakes suddenly, or with inadequate braking force/no braking measures, the system will apply emergency braking, so as to avoid collision or reduce the degree of collision damage.

Active Detection

Accurate Detection

Fast Reaction

24-Hour Monitoring

AEB is mainly composed of camera, LiDAR, perception processor, ECU, acousto-optic alarm and braking system.

Blind Spot Detection System For Large Vehicles

The system is designed to eliminate blind spot areas for trucks, trailers, dump trucks and various large engineering vehicles. Full coverage detection of the blind areas can be achieved, which can accurately detect whether there are vehicles or pedestrians in the blind areas, and give drivers immediate warning of danger.

Active Detection

Accurate Detection

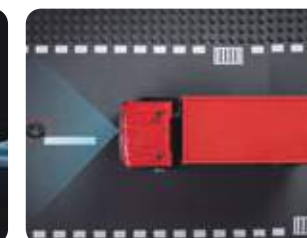
Fast Reaction

24-Hour Monitoring

APPLICATIONS



Pedestrian collision warning



Emergency intrusion warning



Safe distance warning



Lane deviation warning

Low-Speed Autonomous Vehicle System

LSLiDAR's 3D SLAM positioning and navigation system enables 3D environmental mapping and navigation functionality, facilitating the intelligent operation of low-speed autonomous vehicles. It can be widely applied in low-speed autonomous carriers such as unmanned shuttles, baggage carts, concierge service robots, autonomous patrol vehicles, and cleaning robots.

Stable and Efficient Performance

Indoor and Outdoor Adaptability

Convenient and Efficient Deployment

Low Investment Costs



Multi-Line LiDAR 3D SLAM Navigation System Mapping



Autonomous Baggage Carts



Autonomous Shuttle Vehicles



Concierge Service Robots



Autonomous Patrol Vehicles

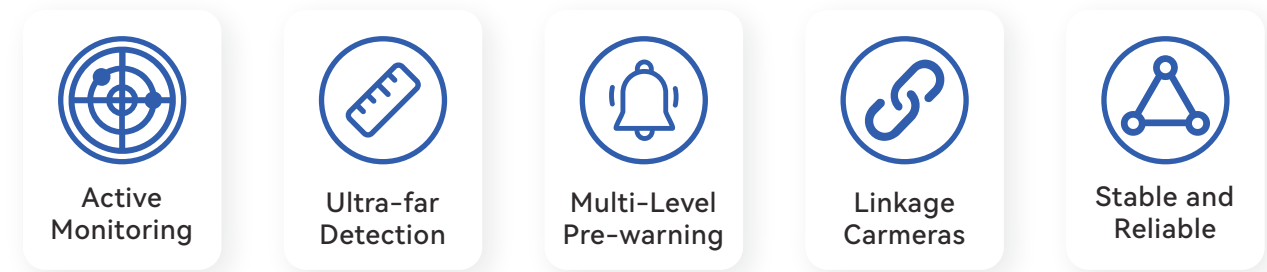


Autonomous Cleaning Robots

BRIDGE ANTI-COLLISION INTELLIGENT ALERT SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

During the flood season, ship drivers can only roughly judge whether they can pass the bridge based on their experience, which leads to many accidents of ships hitting the bridge due to superelevation. This solution uses lasers to scan and monitor ultra-high targets in navigable waters. The ultra-high vessel that threatens the safety of the bridge can be found within 2 km at the farthest, the position and distance of the vessel can be known, and the alarm information can be issued in time to effectively avoid the collision between the ultra-high vessel and the bridge.



●ADVANTAGES

- 1 Self-developed high-end long-distance LiDAR.
- 2 Scan and monitor all ships in navigable waters, and flexibly set navigable areas and non-navigable areas.
- 3 Real-time positioning of the ship's position, multi-level pre-warning of the ship's yaw.
- 4 Linkage cameras to conduct video forensics of yaw vessels.

●INSTALLATION SCHEME

By installing the LiDAR at a specific position of the bridge (see Figures 1 and 2) or on the shore at a certain distance from the bridge (see Figure 3), the laser is used to identify whether the passing ship height exceeds a pre-set superelevation threshold. When the vessel is higher than the limit height of the bridge, the system outputs an alarm signal and releases the warning information in time - it can issue a warning to the ultra-high vessel through the tweeter and the large LED screen, and at the same time display the warning information in the monitoring hall. After receiving the warning, the maritime law enforcement department and bridge maintenance personnel will deal with the dangerous situation in a timely manner to effectively avoid the collision between the ultra-high ship and the bridge.



LiDAR 3D PROTECTION SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

This system is a new generation of non-contact 3D protection equipment independently developed by LSLiDAR. It utilizes the most advanced 3D LiDAR scanning technology to accurately detect the surrounding environment and precisely identify intruders based on the user-configured protection zones. The system boasts reliable all-weather operational stability, high measurement accuracy, and a compact size. It also features dust and rain/fog recognition and filtering capabilities. This system is suitable for industrial safety protection, perimeter protection, vehicle perimeter protection, robot obstacle avoidance, and various other applications.

● ADVANTAGES

Safety Protection

High-resolution, high-precision, and high-density three-dimensional information collection for intruding objects, with centimeter-level ranging accuracy. Active detection and timely warnings ensure enhanced safety.

Ease of Operation

Designated protection zones through algorithm software, with the ability to store multiple settings simultaneously. Users can easily switch between different protection settings based on their specific scenarios.

Comprehensive Coverage

Achieves multi-sensor fusion for environmental perception, monitoring multiple blind spots of vehicles in all directions, and real-time synchronization of information.

Flexible Configuration

The number of LiDAR sensors can be flexibly configured based on actual scene requirements.

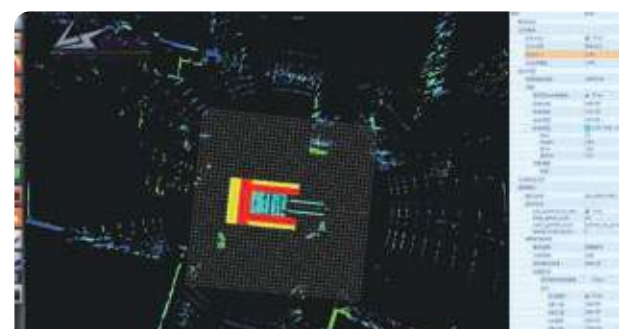
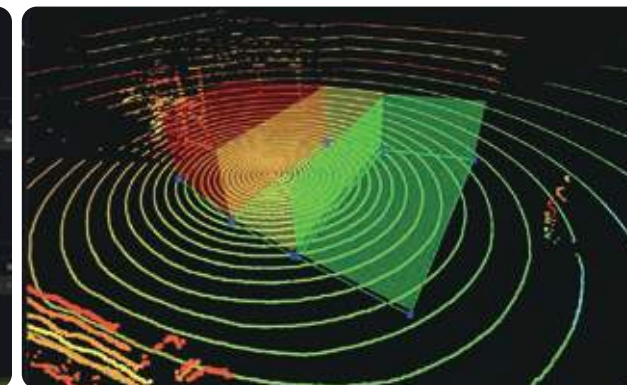
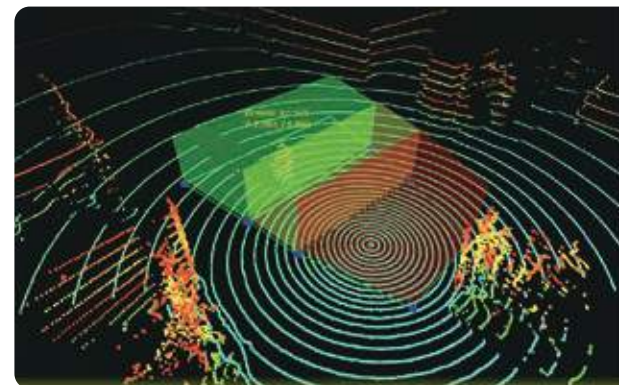
System Stability

The system is highly stable and reliable, able to accurately detect the surrounding environment both day and night, providing round-the-clock protection for drivers.

Outdoor Applicability

The LiDAR has strong resistance to light interference and excellent rain, fog, and dust filtering capabilities, ensuring uninterrupted operation regardless of adverse weather conditions.

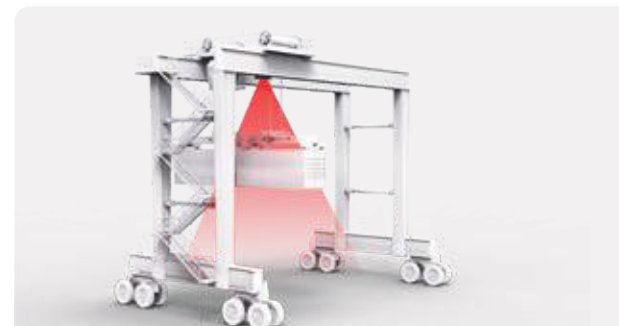
● APPLICATIONS



Forklift collision avoidance



Port crane collision avoidance



Crane collision avoidance



Construction machinery protection



Large vehicle blind spot protection



Commercial vehicle protection

LSLiDAR VEHICLE / VESSEL OPTOELECTRONIC SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

LSLiDAR vehicle/vessel optoelectronic system integrates multi-sensor devices including LiDAR, visible light camera, infrared camera, and integrated navigation. It adopts an attitude and heading reference system (AHRS) framework with two-axis stabilization to stably acquire precise 3D environmental information. Through multi-source information fusion processing combined with advanced neural network algorithms, it can intelligently identify and acquire target object information, and achieve efficient observation, search, monitoring, target tracking and other functions for target objects. It is mainly applicable to maritime, land or low-altitude scenarios.

● ADVANTAGES

PRECISE 3D ENVIRONMENTAL PERCEPTION

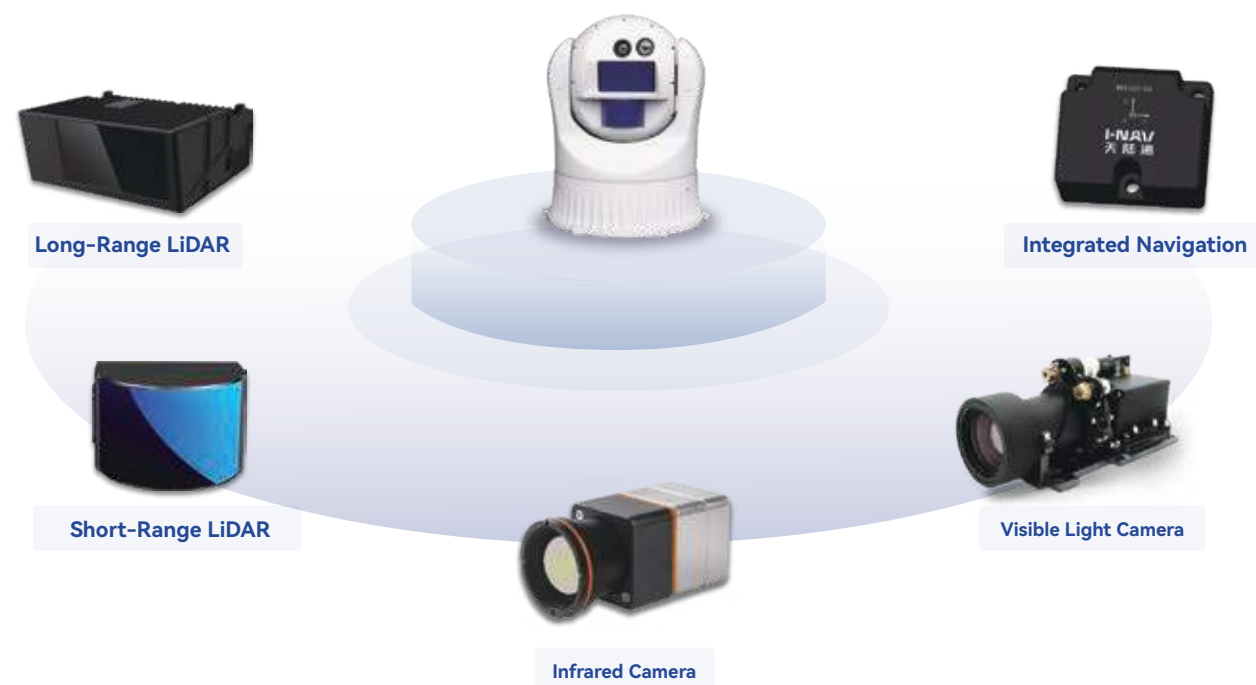
LONG RANGE DISTANCE AND WIDE RANGE

INTELLIGENT TARGET IDENTIFICATION AND DEFENSE

EXCELLENT ANTI-VIBRATION CAPABILITY

ALL-WEATHER 24/7 APPLICABILITY

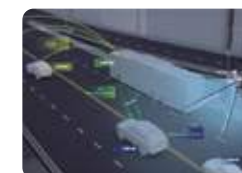
WIDE ADAPTABILITY



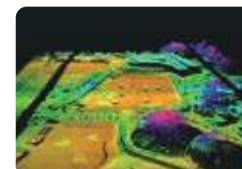
● FUNCTIONAL DESCRIPTION



Integrates capabilities of LiDAR, integrated navigation, visible light camera, and infrared camera data fusion function.



Able to achieve real-time ranging and detection of targets including vessels, vehicles, drones, etc.



Rapidly reconstructs 3D environmental models, builds global maps, and provides reliable terrain data including flat ground, hills, ponds and other landforms.



Provides visible light and thermal imaging, with image enhancement to ensure 24/7 safe surveillance.



Supports external GPS/BDS for global positioning capabilities.



Features dual-axis gyro stabilization to effectively isolate disturbances from vessel/vehicle motion and keep multi-sensors stable.



Provides intelligent target tracking modes including manual, geo, auto and search tracking.

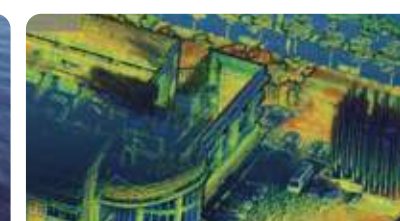
● APPLICATIONS



MARINE EXPLORATION



MARITIME RESCUE



MAP SURVEYING



INTELLIGENT SECURITY



TRAFFIC MANAGEMENT



LAW ENFORCEMENT

ALL-SCENARIO AIRPORT SYSTEM SOLUTION

With the development of low-altitude economic technologies and the expansion of application scenarios, LiDAR has demonstrated significant potential and value in intelligent airports, aircraft collision avoidance and safety assurance, drone applications, and low-altitude safety monitoring. Based on its LiDAR product platform, multi-sensor fusion technology, 3D SLAM positioning and navigation technology, and deep learning algorithms, LSLiDAR has developed an all-scenario low-altitude economic system solution. This solution is expected to play a crucial role in the low-altitude economy, promoting its prosperous development.

Intelligent Airport Situational Perception System

Thanks to the rapid development of information and technology, the trend towards intelligence and automation at airports has become inevitable. Ensuring the safety of aircraft during takeoff, landing, taxiing, and while parked has become critically important, akin to providing the airport with a 'god's-eye view'. LSLiDAR offers an Intelligent Airport Situational Awareness System Solution, enabling coordinated operations of aircraft, vehicles, roads, and personnel within the airport to prevent traffic accidents, enhance operational efficiency, and safety. It assists in detecting aircraft altitude during descent, runway alignment during landing, foreign object debris monitoring on runways, ground obstacle avoidance during taxiing, precise guidance to parking positions upon arrival, and collision prevention during boarding bridge or service equipment docking with aircraft. This upgrade empowers airports to operate safely and efficiently.

● ADVANTAGES

Broad detection range: Capable of monitoring and identifying aircraft within a range of up to 1-2km.

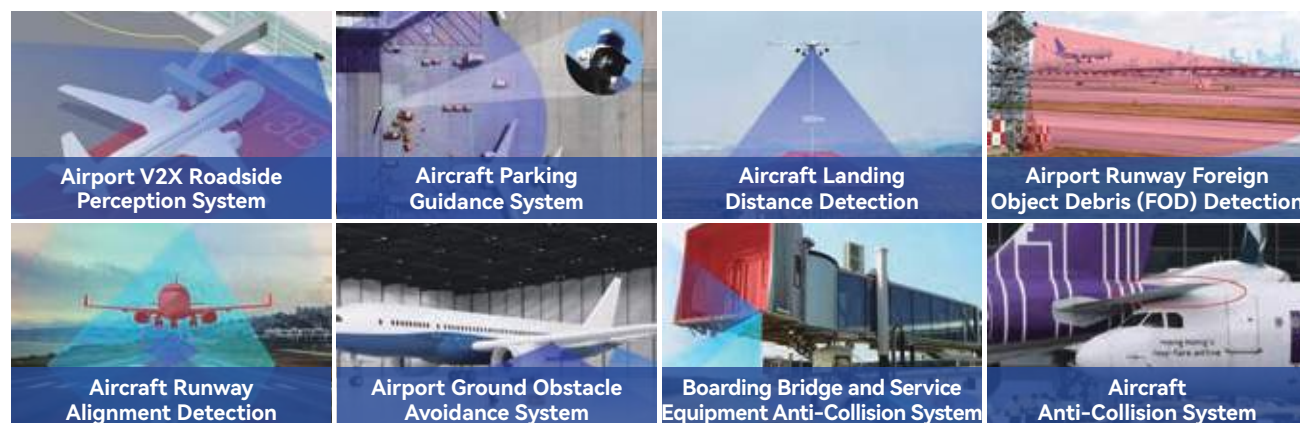
Precise target attribute recognition: Advanced neural network algorithms enable accurate identification of target attributes through deep learning, providing information such as type, orientation, distance, speed, direction of movement, and traffic volume.

Efficient detection of small foreign objects: Centimeter-level detection accuracy effectively identifies various small foreign objects such as metal devices, mechanical tools, flying objects, flora and fauna and etc.

Real-time active detection: The system employs a non-contact active detection mode covering the entire airport, continuously gathering environmental information in real-time.

Multi-sensor fusion for high accuracy: Fusion of sensors such as LiDAR and cameras complement each other, significantly enhancing the accuracy and reliability of data acquisition.

Unaffected by lighting or adverse weather conditions: Operates normally even under strong light or at night, with minimal impact from adverse weather conditions, ensuring stable operation 24/7.



Intelligent Airport Security System Solution

As a key transportation hub, public safety at airports is of utmost importance. However, there are still many safety hazards during airport operations. These include unauthorized intrusions by external personnel or wildlife into the airport perimeter, foreign objects on the runway, drones entering airport airspace, and collisions caused by blind spots during aircraft towing. These issues significantly impact airport public safety.

LSLiDAR's independently developed security monitoring system utilizes LiDAR, high-definition video surveillance technology, and other sensor integrations to provide real-time, around-the-clock monitoring of critical areas. The system promptly issues alerts to prevent aviation dangers and ensure the safe operation of the airport.

● ADVANTAGES

Wide detection range, panoramic coverage without blind spots: With a detection distance ranging from 200m to 2000m (customizable) and a 120°x25° detection range, LiDAR can effectively compensate for the limited distance of the human eye and the blind spots of cameras.

Active defense and automatic tracking: LiDAR performs real-time active detection, interacting with cameras for joint detection. It automatically locates the position of intruding objects and enables multi-target automatic tracking, significantly reducing manual labor and enhancing the rigor of area control.

Real-time precise detection and efficient identification: Real-time precise detection, combined with advanced neural network algorithms, accurately identifies target attributes, effectively distinguishing animals, weeds, and other targets, and accurately locating the position of intruding objects.

Stable monitoring around the clock and in all weather conditions: Unaffected by lighting, it can operate continuously 24/7, performing well in adverse outdoor conditions such as rain and fog, reducing safety risks for inspection personnel working in bad weather and at night.

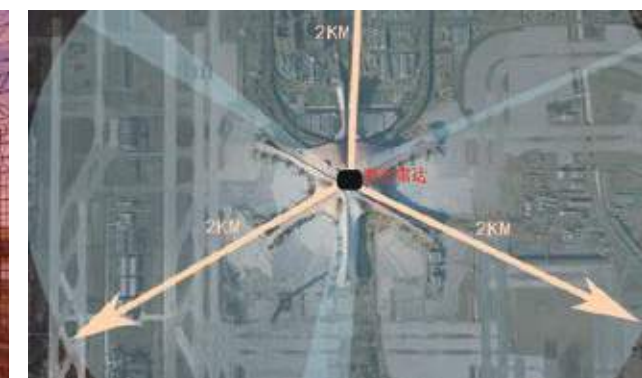
Linked alarm devices: Upon target intrusion, it triggers sound and light alarm devices or sends warning information via APP, providing immediate alerts and uploading videos.

Supports customizable settings: Allows for the customization of alert zones and the presetting of LiDAR's detection ranges based on different time periods.



Airport Perimeter Security System

Deploy comprehensive monitoring and alarm devices to ensure complete coverage with no blind spots or omissions, creating a robust intelligent monitoring and alarm system.



Airport Airspace Drone Detection System

Extend the airport's detection range outward by 2km, using LiDAR to enable real-time detection and monitoring of drone intrusions.

ALL-SCENARIO E-VTOL SYSTEM SOLUTION

LiDAR INDUSTRY APPLICATION SOLUTIONS



UAV Multi-Sensor Fusion Target Detection System

To address the challenges of target detection in complex terrains, LSLiDAR has developed a UAV multi-sensor fusion target detection system. The system primarily consists of ultra-long-range 1550nm fiber laser LiDAR, binocular perception cameras, I-NAV combined INS, and video transmission modules. Data from each sensor can be transmitted to a ground workstation via the video transmission module.

● ADVANTAGES

- Multi-Sensor Fusion Perception
- Real-Time, Dynamic, and Proactive
- Real-Time Reporting of Current Situation
- High Light Resistance and Environmental Immunity
- Easy Installation



High-End LiDAR UAV Mapping and Obstacle Avoidance System

LSLiDAR has launched a high-end LiDAR UAV mapping and obstacle avoidance system designed for scenarios such as tunnel surveying and inspections. This system, equipped with an ultra-long-range 1550nm fiber laser LiDAR platform, cameras, and IMU sensors, achieves high-precision mapping of tunnel interiors. It provides crucial data support for the design, construction, operation, and maintenance of tunnels, enhancing their safety and reliability, and can be applied in various fields like tunnel inspection, maintenance, and renovation.

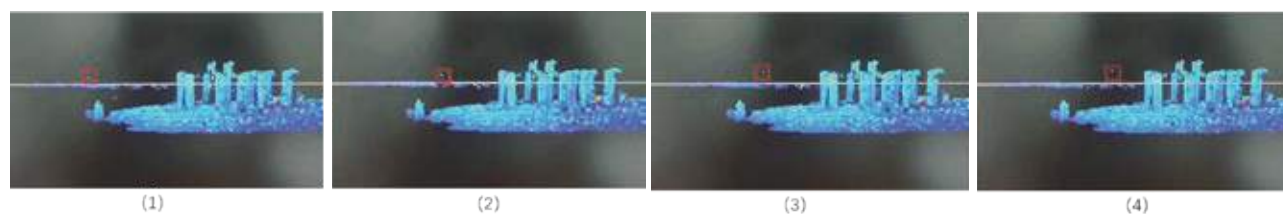
● ADVANTAGES

- High-Precision Surrounding Environment Perception
- Efficient, Safe, and Accurate
- Real-Time, Dynamic, and Proactive
- Real-Time Reporting of Current Situation
- High Light Resistance and Environmental Immunity



LSLiDAR Low-Altitude UAV Target Tracking Electro-Optical System

LSLiDAR's low-altitude UAV target tracking electro-optical system integrates long-range LiDAR, short-range wide-field LiDAR, infrared thermal imaging cameras, high-definition visible light cameras, and I-NAV high-precision INS. This creates a comprehensive and multi-layered monitoring system. This system can be applied to vehicles, airborne platforms, and fixed bases, achieving precise detection and tracking of drones and other aircraft in complex and variable environments.



● ADVANTAGES

LSLiDAR's low-altitude UAV target tracking electro-optical system, equipped with LiDAR, offers several key advantages that effectively address low-altitude security challenges such as UAV interference:

HIGH-PRECISION 3D ENVIRONMENTAL PERCEPTION: The system is equipped with high-precision 3D LiDAR, providing centimeter-level measurement accuracy and ultra-high angular resolution. It can rapidly collect high-precision 3D data of the airport's surrounding environment, offering accurate information for security decision-making.

WIDE AND LONG-RANGE DETECTION: By combining long-range LiDAR with 180° wide FOV blind spot compensation LiDAR, the system achieves a detection range of 1.2 to 2 kilometers, covering a 360°x140° area, ensuring no blind spots in aerial monitoring.

INTELLIGENT TARGET RECOGNITION: With data fusion from multiple sensors, including LiDAR and I-NAV high-precision INS, the system can accurately identify the attributes of flying objects such as UAVs, including their color, size, speed, and coordinates, providing crucial support for timely responses.

STRONG ANTI-SHOCK AND STABILIZATION CAPABILITY: Equipped with high-precision INS and encoders, the system can effectively isolate disturbances caused by vehicle movement, ensuring stable and clear sensor data even under complex weather conditions, guaranteeing effective monitoring.

ALL-WEATHER, ALL-TIME OPERATION: The system is designed with robust anti-interference capabilities, allowing it to operate steadily in adverse weather conditions such as rain, fog, and snow, providing 24/7 security monitoring and early warning to ensure airport safety.

WIDE RANGE OF APPLICATION: The system can be flexibly mounted on unmanned vehicles, aircraft, or ships, or it can be installed in designated areas of airports, providing comprehensive and multi-layered security protection for airport defense.

Flying Car Obstacle Avoidance

As the core sensor of this solution, LiDAR can quickly, accurately and massively obtain the position point cloud data of obstacles that appear in a certain protective area around the flying car. The size/volume and location information of obstacles are known by pre-processing the point cloud data, and the potential danger will be reported to the driver or ADAS in time through a warning system for effective obstacle avoidance.

Application Solution to Flying Cars		
Maximum Design Speed	120km/h~200km/h	Below 120km/h
Long-Distance Obstacle Detection	MS06	CH128X1
Close-Range Obstacle Avoidance & Blind Spot Detection	LS Series	CB64
Monitor Terrain Clearance	LS72A	LS72A

ADVANTAGES

1.Long-range forward obstacle detection

In the obstacle avoidance scheme of flying car with the design of highest speed 120km/h-200km/h, MS06 LiDAR is installed in the head of the car, and the detection range is between 1000m-2000m. The obstacle avoidance side of flying cars with the design of highest speed below 120km/h is equipped with CH128X1 LiDAR, with a detection range of 200m.

It can effectively detect other flying cars or UAVs on the heading and other high-speed intrusion obstacles at a long distance, and provide accurate prediction information and sufficient reaction time for the calculation processing of the control platform and the control operation of flying cars.

2.High-precision peripheral sensing detection

LiDAR can obtain huge amounts of data under the cm-level accuracy, after overlapped collecting high-density on repeated Angle, then forming the dense point cloud. High-precision detection of the obstacles close to flying car and blind detection can be realized. High-resolution scan can possibly recognize the invasion of objects or obstacles to achieve flexible obstacle avoidance, such as detection of high voltage cable, small UAV and the small high-suspended solids from the other directions.

3.Accurate flight altitude detection

The bottom of the flying car is installed with LSLiDAR LS72A laser distance meter, the measurement accuracy reaches cm-level, the farthest distance ranging in the outdoor strong light can reach 150m, supporting high-refresh frequency and providing real-time and accurate off-ground detection data for the flying car with high protection IP67.

4.Non-contact, real-time, active

The scan of the two systems is measured by non-contact scanning, which is collected and processed in the real-time dynamic environment, and the scenario is scanned actively, so as to attain the situation of airspace ahead in advance and get enough time for obstacle avoidance.

5.High light resistance, environmental interference

Lidar launches pulsed laser with high light resistance intensity, which is not affected by natural light and high brightness light on the light emission of flying car, and the protection level reaches IP67.

6.System is easy to install

The five kinds of LSLiDAR LiDARs are small and easy to be embedded and fit the appearance of the flying car perfectly.

Drone Perception and Obstacle Avoidance Flight Path Planning System

Leading the New Era of Safe Drone Flight

With the rapid advancement of drone technology, its applications in surveying, logistics, inspection, and other fields have become increasingly widespread. However, traditional flight methods relying on pre-planned routes face higher collision risks in complex and dynamic environments. To address this challenge, we introduce the LSLiDAR Drone Perception and Obstacle Avoidance System, providing robust support for safe drone flight.



ADVANTAGES

High-Precision LiDAR: Utilizes ultra-long-range 1550nm hybrid solid-state LiDAR, offering high distance measurement accuracy and sensitivity, providing precise environmental information about the 3D space around the drone.

Multi-Sensor Fusion Perception: Integrates various sensors including LiDAR, binocular cameras, and inertial measurement units to achieve comprehensive, multi-dimensional environmental perception.

Intelligent Path Planning: Constructs obstacle models from 3D point clouds, combining drone position, speed, and other parameters with advanced path planning algorithms to compute and plan safe obstacle-avoidance routes in real-time.

All-Weather Monitoring: The system operates effectively under various weather conditions and in low-light or nighttime environments, ensuring continuous, round-the-clock monitoring and obstacle avoidance.

Efficient Edge Computing: Sensor data is processed via switches or directly connected to edge computing units, with data processing starting immediately after the drone powers on, ensuring rapid response.

Intuitive Alerts and Displays: Equipped with sound and light warning devices and onboard displays to provide real-time obstacle information and offer intuitive, immediate feedback on flight status to operators.

STOCKPILE VOLUME MEASUREMENT SYSTEM

LiDAR INDUSTRY APPLICATION SOLUTIONS

The system is based on LSLiDAR's LiDAR technology, using a gimbal and LiDAR module to perform scanning and modeling of materials. It can obtain real-time, stable 3D spatial data, allowing for flexible segmentation of different storage locations, point cloud fusion, and hole filling. This enables quick and accurate high-precision material volume calculations. The system can be used for 3D model visualization, monitoring material movement, and is applicable in fields such as coal mines, power plants, steel mills, port automation, rail transportation, and logistics.

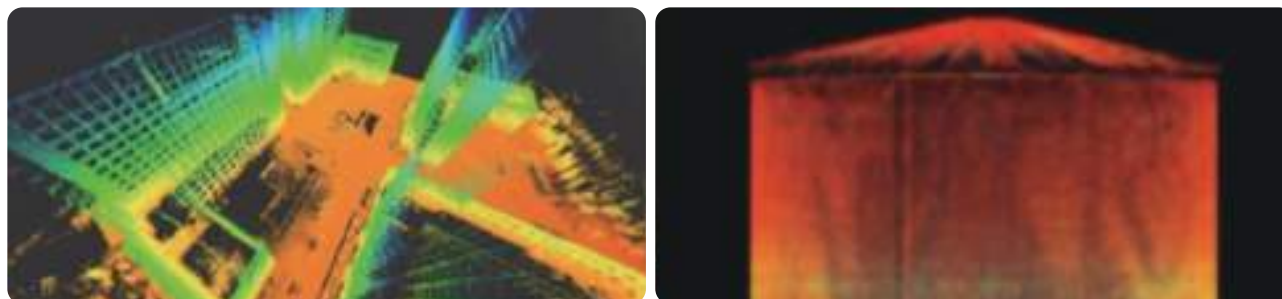
● APPLICATIONS



Volume Measurements



Digitization and 3D modeling



Earthwork Surveys

Calibration of Measuring Containers

● ADVANTAGES

1

Wide Versatility

It can meet the measurement and modeling requirements for objects such as coal, sand, soil, gravel, stones, and wood chips. It is capable of measuring large, irregular materials that are difficult to measure through contact methods.

2

Flexible Installation and Fast Implementation

It can adjust the installation height and angle, as well as the number of LiDARs, based on the onsite conditions or the size of the stockpile. The system's scanning range and speed can be configured flexibly. Anyone can quickly learn how to set up and use it.

3

Unaffected by Lighting or Harsh Environments

With excellent anti-interference performance and strong environmental adaptability, it is not limited by dim light or strong light, making it suitable for both indoor and outdoor environments. It ensures stable, long-term operation under all weather conditions.

4

Real-Time, High-Precision, Fully Automated

It provides real-time sensing of material status and actively monitors changes in materials. The system automatically collects and analyzes data, and real-time data output can be transmitted over a network to computers, monitors, or control centers, with accuracy reaching centimeter-level precision.

5

Non-Contact Scanning Ensuring High Safety

Laser scanning technology uses a non-contact method to measure targets, requiring no surface treatment of the scanned objects. It directly collects 3D point clouds of the object's surface, providing accurate and reliable data. This solution is ideal for environments and situations where it is difficult for personnel to approach.

6

Stable and Long Service Life

Industrial-grade design with overall rain and dust resistance, good impact resistance, and high-toughness cables.