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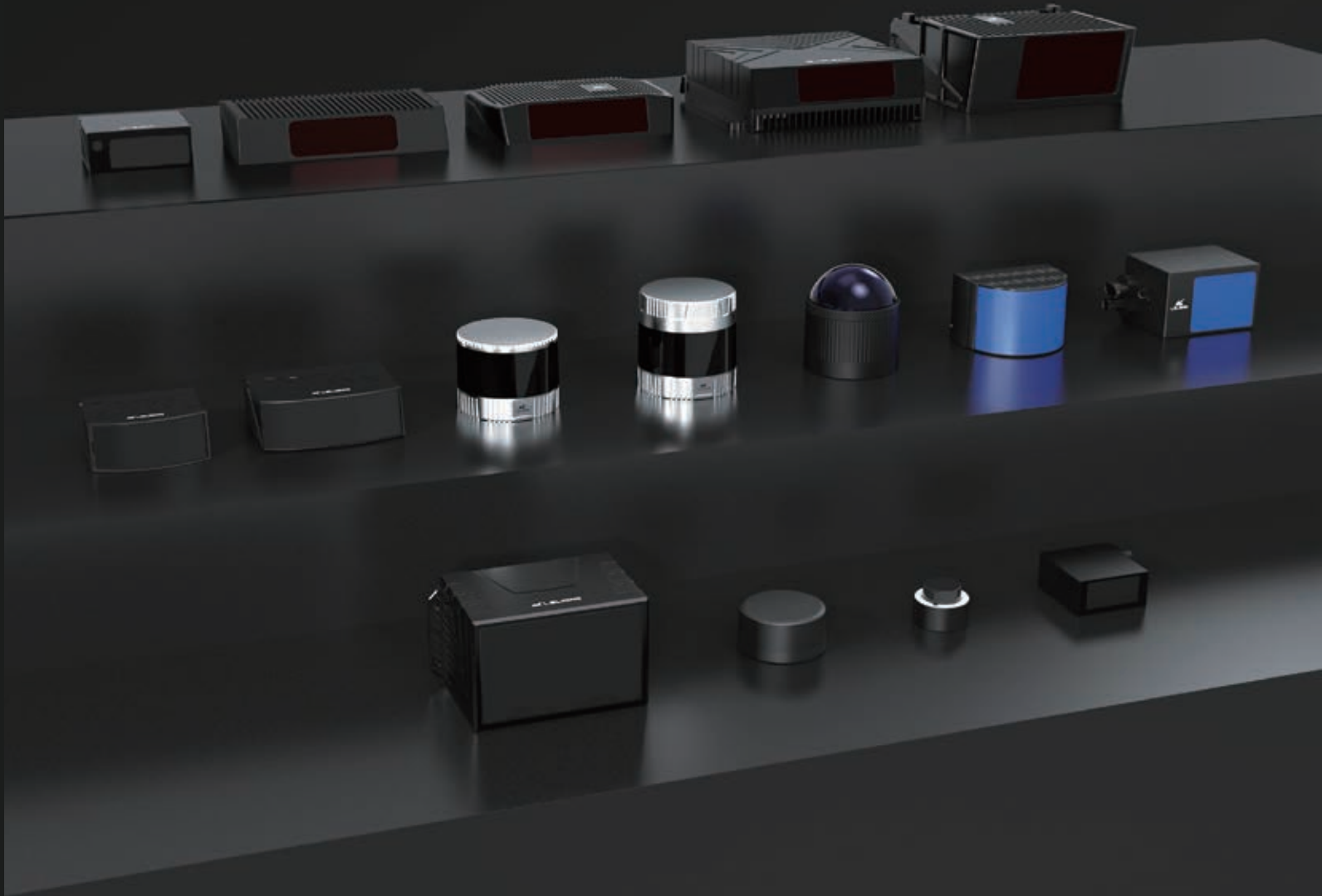
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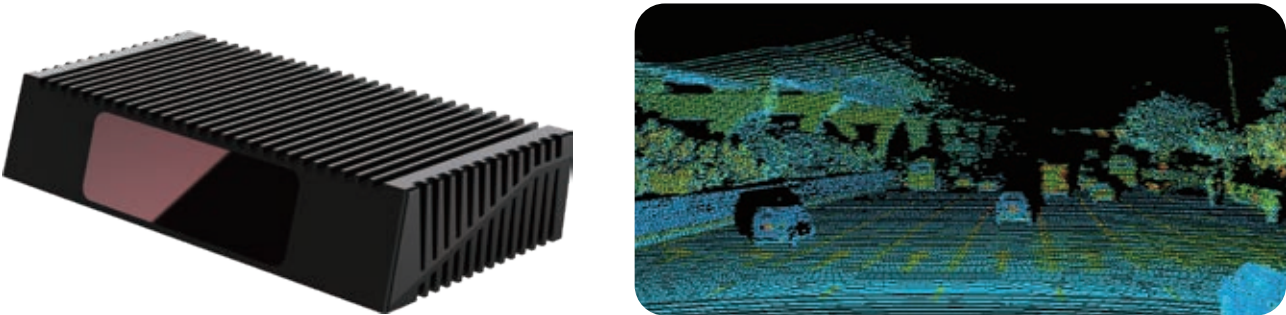
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LS-S2 Series

Image-grade 1550nm Auto-grade 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-S2 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 preferred main LiDAR for Level 3 and higher advanced autonomous driving.



Model	LS128S2	LS180S2	LS320S2	LS400S2
Channels	128	180	320	400
Channels Scanned	1280/s	1800/s	3200/s	4000/s
Horizontal FOV	120°	120°	120°	120°
Vertical FOV	25°(±12.5°)	25°(±12.5°)	25° (±12.5°)	25° (±12.5°)
Horizontal Angular Resolution	B: 0.103°	B: 0.13°	B: 0.0518°	A: 0.0648°
Vertical Angular Resolution	B: 0.076° (ROI) 0.33° (Non ROI)	B: 0.1° (@ROI)	B: 0.09° (@ROI) 0.2° (Non-Global)	A: 0.05° (Non-Global)
Data Point Generating Rate	1,480,000 pts/sec	1,650,000 pts/sec	1,850,000 pts/sec	1,850,000 pts/sec

Note: LS-S2 series offers two scanning options: A: Uniform scanning and B: Fixed ROI scanning. For more information on additional channel configurations and scanning options, please contact our sales team.

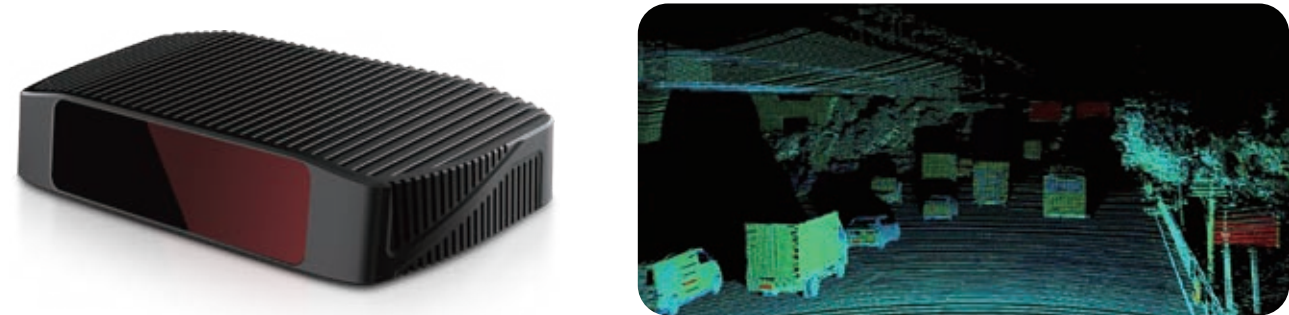
Wavelength	1550±25nm	IP Grade	IP6K9K
Laser Class	CLASS 1	Operating Temperature	-40°C ~ 75°C
Detection Method	TOF	Storage Temperature	-40°C ~ 105°C
Detection Range	1.5m~250m(@10%)	Vibration Test	5Hz~2000Hz, 3G rms
Range Accuracy	±2cm	Shock Test	500m/sec², lasting for 11ms
FPS	10FPS	Weight	Basic: ≤1.8 kg Thin: ≤1.5 kg
Communication Interface	Automotive Ethernet	Dimensions (LxWxH)	Basic: 236x125x49 mm Thin: 228x125x45 mm
Input Voltage	12~36V DC		
Power Consumption	≤28 W		



LS-S3 Series (Terminator 1)

Image-grade 1550nm Auto-grade 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 preferred main LiDAR for Level 3 and higher advanced autonomous driving.



Model	LS144S3	LS180S3	LS320S3	LS400S3
Channels	144	180	320	400
Channels Scanned	1440	1800	3200	4000
Horizontal FOV	120°	120°	120°	120°
Vertical FOV	24°	25°(±12.5°)	25° (±12.5°)	25° (±12.5°)
Horizontal Angular Resolution	B: 0.103°	B: 0.13°	B: 0.0518°	A: 0.0648°
Vertical Angular Resolution	B: 0.2°, 0.0909°(@ROI, 4°)	B: 0.1°(@ROI)	B: 0.09°(@ROI) 0.2°(Non-Global)	A: 0.05°(Non-Global)
Data Point Generating Rate	1,650,000 pts/sec	1,650,000 pts/sec	1,850,000 pts/sec	1,850,000 pts/sec

Note: LS-S3 series offers four scanning options: A: Uniform scanning, B: Fixed ROI scanning, E: Bidirectional uniform scanning, and F: Bidirectional ROI scanning. In addition to the mentioned channel configurations, there are also four options available: 120/128/140/160. For more information on additional cable harness configurations and scanning options, please contact our sales team.

Wavelength	1550±25nm	Power Consumption	≤25 W
Laser Class	CLASS 1	IP Grade	IP6K9K
Detection Method	TOF	Operating Temperature	-40°C ~75°C
Detection Range	1.5m~250m(@10%)	Storage Temperature	-40°C ~ 105°C
Range Accuracy	±2cm	Vibration Test	5Hz~2000Hz, 3G rms
FPS	10FPS	Shock Test	500m/sec², lasting for 11ms
Communication Interface	Automotive / Industrial Ethernet	Weight	≤1.6 kg
Input Voltage	9~36V DC	Dimensions (LxWxH)	229x132x46 mm

LS25 Series

Rail Transport Hybrid Solid-state LiDAR

LS25D is suitable for fixed-point detection at the track end, with an ultra-wide field angle of 120°×25°. At the detection distance of 200 meters, clear and accurate identification of foreign obstacles;

LS25E is suitable for train-mounted, detection range Max 500m, detection accuracy ±2cm, frame rate 10~20FPS, low false alarm rate, give train driver or traffic background more safety redundancy time.



- High resolution scanning and monitoring railway.
- Accurate identification of foreign obstacle.

		LS25D	LS25E
LASER	Wavelength	1550±25nm	1550±25nm
	Detection Range	1.5m~200m(@10%), Max 500m	1.5m~300m(250m@10%), Max 500m
SPEC	Range Accuracy	±2cm	±2cm
	Horizontal FOV	120°	120°
	Vertical FOV	25° (±12.5°)	25° (±12.5°)
	Horizontal Resolution	0.0311°	0.09°(10FPS)、0.18°(20FPS)
	Vertical Resolution	0.05° / 0.025° / 0.0125°(0.25Hz)	0.2°
	FPS	0.25 / 0.5 / 1 FPS	10 / 20 FPS
	FPS	0.25 / 0.5 / 1 FPS	10 / 20 FPS
EXPORT	Communication Interface	Automotive Ethernet	Automotive Ethernet
ELECTRIC	Input Voltage	12~36V DC	12~36V DC
	Power Consumption	< 30W	≤30W
ENVIRON-MENT	IP Grade	IP6K9K	/
	Operating Temperature	-40℃ ~ 75℃	-40℃ ~ 60℃
MACHINE	Weight	≤2kg	≤2kg
	Dimensions (LxWxH)	247.5x230.03x79 mm	229x228x49 mm

MS06

Helicopters 1550nm Anti-Collision LiDAR

MS06 is a TOF-based LiDAR that utilizes Class I eye-safe laser technology. It has a maximum detection range of up to 2000m, can be used in helicopters, flying cars collision avoidance and mapping.



Wavelength	1550±25nm	Communication Interface	*
Detection Method	TOF	GNSS Port	*
Detection Range	600/800/1000/1200m (Max 2000m)	Power Consumption	*
Range Accuracy	*	Input Voltage	*
Angle Accuracy	*	IP Grade	*
FPS	*	Storage Temperature	*
Horizontal FOV	*	Operating Temperature	*
Vertical FOV	*	Weight	*
Vertical	*	Dimensions (LxWxH)	243x220x96mm

Ps: Please contact sales for detailed parameters

LS30MVA

LONG RANGE BRIDGE COLLISION AVOIDANCE 1550nm LiDAR SYSTEM

LS30MVA long-range visually adjustable laser ranging system is composed of a long-distance fixed-point rangefinder independently developed by LSLiDAR, an angular displacement platform, and a camera. When the rangefinder is displaced in the pitch direction due to various reasons, the system will automatically sense it and adjust the emitted laser of the rangefinder to the horizontal angle. The optical axis of the camera is parallel to the laser direction. Therefore, when the rangefinder detects a target ahead, the target situation can be directly confirmed.



Wavelength	1550±25nm	Input Voltage	AC/170~264V DC
Max Range	10~2000m@10%	Power Consumption	50W (Max)
Min Range	10m	IP Grade	IP66 (Customizable)
Range Accuracy	±15cm	Operating Temperature	-10℃ ~ 60℃
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	Industrial Ethernet	Dimensions (LxWxH)	350x272.5x487 mm

CX Series

Auto-grade Hybrid Solid-state LiDAR

Thanks to the breakthroughs have been made by LSLiDAR, CX series is built on the miniaturization technology on automotive grade hybrid-solid state LiDARs and achieves a long detection range of 200 meters at 10% reflectivity and offers high angular resolution, it not only meets the performance requirements of remote detection and perception in autonomous driving but also has a mini size, suitable for embedding in the position of roof or front bumper, which is more in line with the aesthetic requirements of passenger car appearance design.



	CX126S3	CX128S2	CX128S2-R
Wavelength	905nm	905nm	905nm
Laser Class	Class I	Class I	Class I
Channels	126	128	128
Detection Method	TOF	TOF	TOF
Detection Range	180m@10%	200m@10%	200m@10%
Range Accuracy	≤3cm	±3cm	±3cm
Horizontal FOV	120°	120°	120°
Vertical FOV	25°(-12.5°~12.5°)	25°(-12.5°~12.5°)	25°(-12.5°~12.5°)
Horizontal Resolution	0.09° / 0.18° / 0.36°	0.05° / 0.1° / 0.2°	0.05° / 0.1° / 0.2°
Vertical Resolution	0.2°	0.125° @ROI, 0.25°@Non ROI	0.125° @ROI, 0.25°@Non ROI
FPS	5Hz / 10 Hz / 20 Hz	5Hz / 10 Hz / 20 Hz	5Hz / 10 Hz / 20 Hz
Data Point Generating Rate	840,000 pts/sec	1,530,000 pts/sec	1,530,000 pts/sec
Communication Interface	Automotive Ethernet	Automotive Ethernet	Industrial Ethernet
Input Voltage	9V~16V DC	9V~16V DC	9V~32V DC
Power Consumption	13.5W	-	-
AUTOSAR	ASIL B	ASIL B	-
IP Grade	IP6K9K	IP6K9K	IP6K9K
Operating Temperature	-40℃ ~ 85℃	-40℃ ~ 85℃	-40℃ ~ 85℃
Vibration Test	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
Weight	635g	≤935g	< 1000g
Dimensions (LxWxH)	110x100.4x45 mm	139x112.78x47mm	139x115.7x47mm (Arc window; Rear outlet) 139x100.3x47mm (Flat window; Rear outlet) 139x114.2x47mm (Arc window; Side outlet)

CX-S3 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



		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 Accuracy	±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°
EXPORT	FPS	30 / 60 / 90 / 120 / 150 Hz	5 / 10 / 20 Hz
	Data Point Generating Rate	150,000	48,000
ELECTRIC	Communication Interface	Industrial Ethernet	Industrial Ethernet
	Input Voltage	9V~32V DC	9V~32V DC
ENVIRON-MENT	IP Grade	IP6K9K	IP6K9K
	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

HS Series

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.

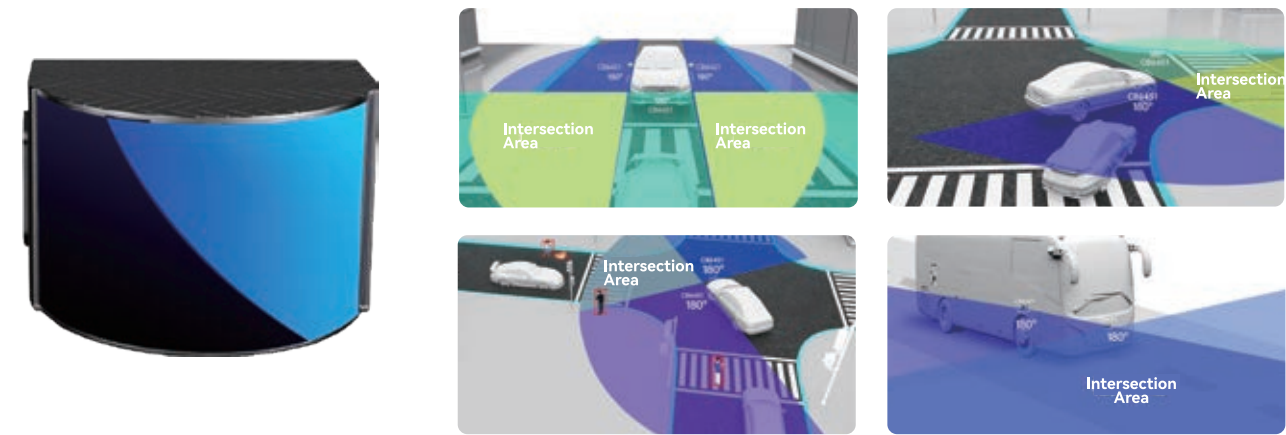


		HS1	HS4
LASER	Wavelength	905nm	905nm
	Laser Class	CLASS 1	CLASS 1
SPEC	Channels	1	4
	Detection Method	TOF	TOF
	Detection Range	30 / 50 / 70 / 100m @10%	100m
	Range Accuracy	±3cm	±3cm
	Horizontal FOV	120°	120°
	Horizontal Resolution	0.09° / 0.18° / 0.225° / 0.27° / 0.36°	0.09° / 0.18° / 0.36°
	FPS	40Hz / 80Hz / 120Hz / 160Hz	40Hz / 80Hz / 120Hz
	Data Point Generating Rate	53,000 pts/sec	53,300 pts/sec
EXPORT	Communication Interface	Industrial Ethernet	Ethernet, PPS
ELECTRIC	Input Voltage	9V~36V DC	9V~36V DC
	IP Grade	IP67	IP67
ENVIRON-MENT	Operating Temperature	-20°C~65°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
	Weight	≈1600g	1500g
MACHINE	Dimensions (LxWxH)	155x107.5x90 mm	155x90x107.5 mm

CB64

Wide field of view (FOV) LiDAR

CB64 wide field of view (FOV) LiDAR is specially designed for cleaning up blind areas. It has an ultra-wide field FOV of 180°x40°, and the measurement accuracy is accurate to ±3cm. It can efficiently identify obstacles within a short range and bring accurate environmental perception to the driving blind areas of automobiles, robots and AGV.

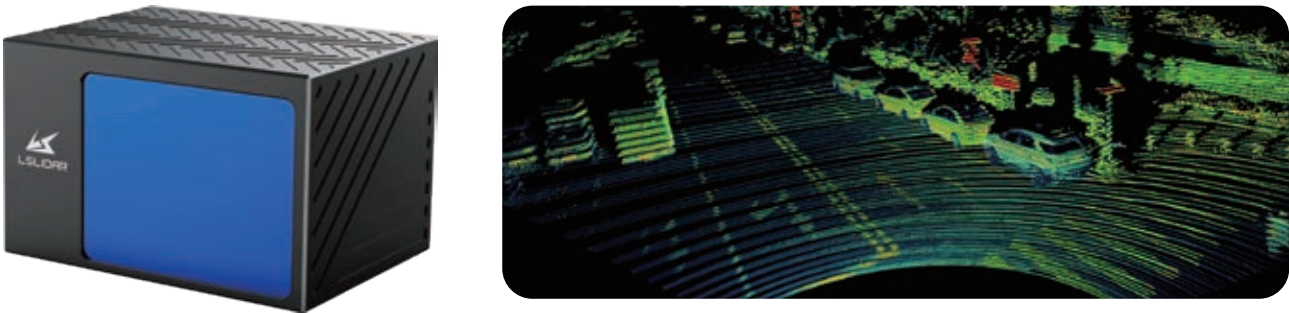


Wavelength	905nm	Communication Interface	Automotive / Industrial Ethernet
Laser Class	Class I	Input Voltage	9V~36V DC
Channels	64	Power Consumption	12W
Detection Method	TOF	AUTOSAR	ASIL B
Detection Range	100m(45m@10%)	IP Grade	IP6K9K
Range Accuracy	±3cm	Operating Temperature	-40℃~85℃
Horizontal FOV	180°	Storage Temperature	-40℃~105℃
Vertical FOV	40°(-25°~15°)	Vibration Test	5Hz-2000Hz, 3G rms
Horizontal Resolution	0.12°	Shock Test	500m/sec², lasting for 11ms
Vertical Resolution	0.63°	Weight	≈1kg
FPS	10Hz	Dimensions (LxWxH)	116x90x76 mm
Data Point Generating Rate	1,010,000 pts/sec		

CH128 Series

Auto-grade Hybrid Solid-state LiDAR

LSLiDAR keeps upgrading CH128 series LiDAR with the requirements of factory-installed self-driving systems set by automotive OEMs. The stable and reliable performance of the original CH series Hybrid Solid-state LiDAR is fully integrated with the size, power consumption, function, safety, cost and other requirements of automobile manufacturers, and has passed a series of rigorous tests. CH128 series has achieved an unprecedented technological breakthrough in Hybrid Solid-state LiDAR on a global scale.

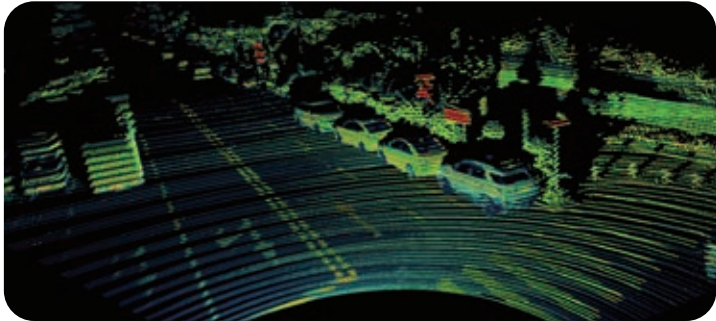


		CH128X1	CH128S1
LASER	Wavelength	905nm	905nm
	Laser Class	Class I	Class I
SPEC	Channels	128	128
	Detection Method	TOF	TOF
	Detection Range	200m (160m@10%)	200m (160m@10%)
	Range Accuracy	±3cm	±3cm
	Horizontal FOV	120°	120°
	Vertical FOV	25°(-18°~7°)	25°(-12.5°~12.5°)
	Horizontal Resolution	0.1° / 0.2° / 0.4°	0.1° / 0.2° / 0.4
	Vertical Resolution	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℃~85℃	-40℃~85℃
	Vibration Test	5Hz-2000Hz, 3G rms	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	500m/sec², lasting for 11ms
MACHINE	Weight	≈1kg	≈1kg
	Dimensions (LxWxH)	118x90x75 mm	118x90x75 mm

CH16X1

Auto-grade Hybrid Solid-state LiDAR

CH16X1 hybrid solid-state LiDAR 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 cope with a variety of complex environments, to ensure stable and accurate operation, widely used in grain bin testing, volume measurement and other fields.



Wavelength	905nm	Data Point Generating Rate	95,000
Laser Class	CLASS 1	Communication Interface	Automotive / 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 Accuracy	±3cm	Operating Temperature	-40℃ ~ 85℃
Horizontal FOV	120°	Storage Temperature	-40℃ ~ 105℃
Vertical FOV	-2°~2°	Vibration Test	5Hz~2000Hz, 3G rms
Horizontal Resolution	0.06° / 0.12° / 0.24° (Industrial Ethernet) 0.1° / 0.2° / 0.4° (Automotive Ethernet)	Shock Test	500m/sec², lasting for 11ms
		Weight	≈1kg
Vertical Resolution	0.25°	Dimensions (LxWxH)	118x90x75 mm
FPS	5Hz / 10Hz / 20Hz		

CH256X1

Hybrid Solid-state LiDAR

CH256X1 hybrid solid-state LiDAR has made great improvements in vibration resistance, shock resistance and point cloud harness, which can adapt to continuous operation in high vibration and high impact scenes, and the measurement rate of 2.56 million points/second, forming high-density point cloud imaging and providing more accurate environmental perception.



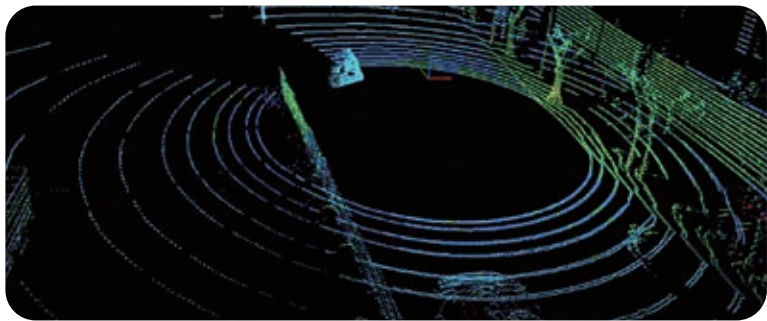
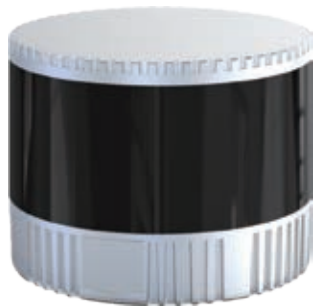
Wavelength	905nm	Data Point Generating Rate	2,560,000 pts/sec
Laser Class	CLASS 1	Communication Interface	Industrial Ethernet
Channels	256	Input Voltage	12~36V
Detection Method	TOF	IP Grade	IP67
Detection Range	220m@10%	Operating Temperature	-40℃ ~ 55℃
Range Accuracy	±3cm	Storage Temperature	-40℃ ~ 65℃
Horizontal FOV	120°	Vibration Test	5~2000Hz, 3G rms
Vertical FOV	40° (-20°~20°)	Shock Test	500m/sec², lasting for 11ms
Horizontal Resolution	0.12° / 0.24°	Weight	≤2kg
Vertical Resolution	0.156°	Dimensions (LxWxH)	154x108x100mm
FPS	10 / 20Hz		177x108x100mm (Including Mounting Hole)



C32/16

Multi-line Mechanical LiDAR

C32/C16 LiDAR can realize 360° three-dimensional high-speed scanning with a dense 16/32 scanning channels. The PoE version uses a single Ethernet cable to solve power and data transmission, simplifying wiring, reducing costs, supporting 100 meter power supply, and improving system flexibility and installation convenience. Widely used in driverless, automotive ADAS, intelligent transportation, service robots, logistics, surveying and mapping, security, port, industry and other fields.



C32 / C32 PoE

C16 / C16 PoE

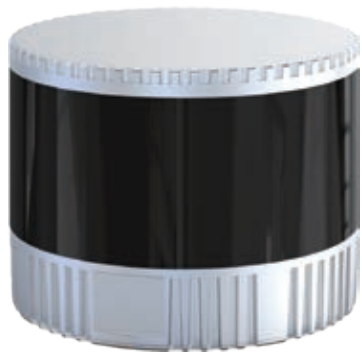
LASER	Wavelength	905nm	
	Laser Class	Class I	
SPEC	Channels	32	16
	Detection Method	TOF	
	Detection Range	100m@10%, 150m@70%	
	Precision	±3cm	
	Range Accuracy	±1cm	
	Horizontal FOV	360°	
	Vertical FOV	-16°~15°	
	Horizontal Resolution	0.09°/ 0.18°/ 0.36°	
	Vertical Resolution	Uniform 1°	
EXPORT	FPS	5Hz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



C1

Single-line Mechanical LiDAR

C1 single-line mechanical LiDAR uses the time-of-flight measurement mechanism to achieve a high-speed 360° scan of the surrounding environment, with a detection distance of up to 150m and an accuracy of ±3cm. It is mainly used in indoor service robots, AGVs and UAVs that require precise positioning and obstacle avoidance.

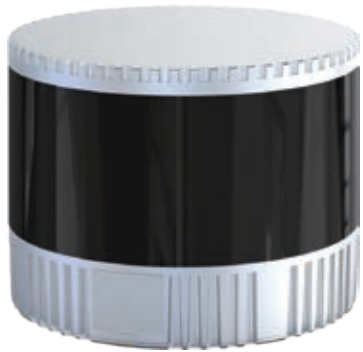


Wavelength	905nm	FPS	5Hz / 10Hz / 20Hz
Laser Class	Class I	Data Point Generating Rate	Single Echo 20,000 pts/sec Dual Echo 40,000 pts/sec
Channels	1	Communication Interface	Ethernet, PPS
Detection Method	TOF	Input Voltage	9V~32V DC
Detection Range	150m@70%, 110m@10%	Power Consumption	7W (10Hz)
Precision	±3cm	IP Grade	IP67
Range Accuracy	±1cm	Working 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	0.09°/ 0.18°/ 0.36°	Weight	1050g
Vertical Resolution	N/A	Dimensions (DxH)	Φ102x77.9 mm

C4/C8

Multi-line Mechanical LiDAR

C4/C8 multi-line mechanical LiDAR realizes 360° three-dimensional high-speed scanning with 4/8 laser beams. It reaches a detection distance of up to 150 m, and a measurement accuracy of ±3 cm. This lidar sensor is widely used in autonomous driving, automotive ADAS, intelligent transportation, service robot, logistics, surveying and mapping, security, industry, ports and other fields.



C4

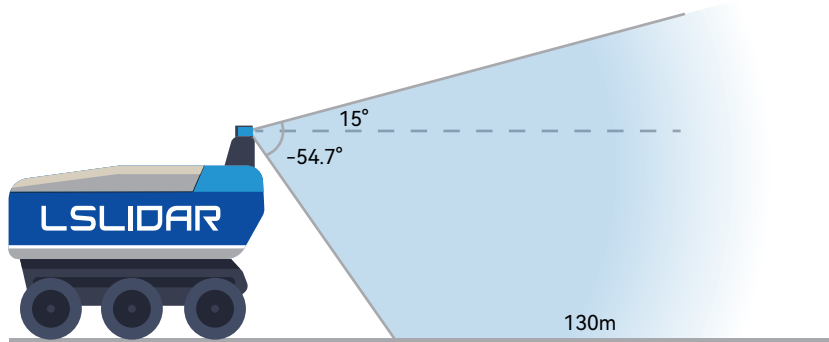
C8

LASER	C4		C8	
	Wavelength	905nm	Wavelength	905nm
SPEC	Laser Class	Class I	Laser Class	Class I
	Channels	4	Channels	8
	Detection Method	TOF	Detection Method	TOF
	Detection Range	150m@70%	Detection Range	120m@70%, 110m@10%
	Precision	±3cm	Precision	±3cm
	Range Accuracy	±1cm	Range Accuracy	±1cm
	Horizontal FOV	360°	Horizontal FOV	360°
	Vertical FOV	-12°~12°	Vertical FOV	-12°~12°
	Horizontal Resolution	0.09°/ 0.18°/ 0.36°	Horizontal Resolution	0.09°/ 0.18°/ 0.36°
	Vertical Resolution	Min 4°	Vertical Resolution	2°/4°
EXPORT	FPS	5Hz / 10Hz / 20Hz	FPS	5Hz / 10Hz / 20Hz
	Data Point Generating Rate	Single Echo 80,000 pts/sec Dual Echo 160,000 pts/sec	Data Point Generating Rate	Single Echo 160,000 pts/sec Dual Echo 320,000 pts/sec
ELECTRIC	Communication Interface	Ethernet, PPS	Communication Interface	Ethernet, PPS
	Input Voltage	9V~36V DC	Input Voltage	9V~36V DC
	Power Consumption	≈12W	Power Consumption	≈12W
ENVIRON-MENT	IP Grade	IP67	IP Grade	IP67
	Working Temperature	-20°C~60°C	Working Temperature	-20°C~60°C
	Vibration Test	5Hz-2000Hz, 3G rms	Vibration Test	5Hz-2000Hz, 3G rms
	Shock Test	500m/sec², lasting for 11ms	Shock Test	500m/sec², lasting for 11ms
MACHINE	Weight	1050g	Weight	1050g
	Dimensions (DxH)	Φ102x77.9 mm	Dimensions (DxH)	Φ102x77.9 mm

C32W

Wide FOV Mechanical LiDAR

C32W has a wide field of view of 360°x70°, but also centrally scans the space below the LiDAR, which can effectively identify low obstacles in the short range and greatly reduce the detection blind area space. The PoE version uses a single Ethernet cable to solve power and data transmission, simplifying wiring, reducing costs, supporting 100 meter power supply, and improving system flexibility and installation convenience.



C32W

C32W PoE

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



CH32R/CH16R

Ultra-Wide Angle Blind Spot LiDAR

CH16R/CH32R LiDAR can realize 360° three-dimensional high-speed scanning with a dense 16/32 scanning channels. The PoE version uses a single Ethernet cable to solve power and data transmission, simplifying wiring, reducing costs, supporting 100 meter power supply, and improving system flexibility and installation convenience. Widely used in driverless, automotive ADAS, intelligent transportation, service robots, logistics, surveying and mapping, security, port, industry and other fields.



		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%
	Precision	±3cm	±3cm
	Range Accuracy	±1cm	±1cm
	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	5Hz、10Hz、20Hz	5Hz、10Hz、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	100M Ethernet、PPS、PTP / 100M Industrial Ethernet	100M Ethernet、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
	Working Temperature	-20℃~60℃	-20℃~60℃
	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



M10 PHY

Navigation & Obstacle Avoidance LiDAR



- Wide recognition range, long range, fast response.
- Algorithm is optimized and upgraded, mapping faster and more accurate.
- Strong anti-light interference ability, both indoor and outdoor.
- Advanced optics and lower SNR and dynamic balance control, excellent detection for strong light, high reflectivity objects and low reflectivity objects.
- Light and compact, more suitable for embedding machine.

Wavelength	905nm	Angular Resolution	0.36°
Laser Class	Class I	Input Voltage	9~32V
Output Data	Distance、Angle、 High reflectivity recognition	IP Grade	IP65
Detection Distance	10m@10%, 25m@70%	Operating Temperature	-10℃~50℃
Accuracy	±3cm	Communication Interface	Network interface
Pulse Repetition Frequency	10KHz	Vibration Test	500m/sec², lasting for 11ms
Scanning Frequency	10Hz	Shock Test	5 Hz-2000 Hz, 3G rms
Data Point Generating Rate	10,000 pts/sec	Weight	200g
Date Output Resolution	1mm	Dimensions (DxH)	Φ79.6x39mm



N Series

Navigation & Obstacle Avoidance LiDAR



- Algorithm is optimized and upgraded, making the drawing faster and more accurate
- Strong anti-light interference ability, suitable for robot mapping, navigation and obstacle avoidance
- Advanced optical and algorithmic systems, black and white objects, high reflectivity objects have excellent detection performance
- Thin and compact design, suitable for embedded in all kinds of service robot body

	N10	N10Plus	N20
Wavelength	905nm	905nm	905nm
Laser Class	Class I	Class I	Class I
Output Data	Distance, Angle, Intensity	Distance, Angle, Intensity	Distance, Angle, Intensity
Detection Distance	0.02~12m@70%	0.02m~15m@70%	0.1m~12m@70%
Accuracy	±3cm(0~6m); ±4.5cm(≥6m)@70%	±3cm@70%	±1.5cm(0~8m);±3cm(8~12m)@70%
Scanning Angle	360°	360°	360°
Scanning Frequency	6~12Hz	6~12Hz	6~12Hz
Data Point Generating Rate	4,500 pts/sec	5,400 pts/sec Dual Echo 10,800 pts/sec	4,500 pts/sec
Angular Resolution	0.48°~0.96°	0.4°~0.8°	0.8°
Input Voltage	5V DC (4.75V~5.25V DC)	5V DC (4.75V~5.25V DC)	5V DC (4.75V~5.25V DC)
Power Consumption	1W	1.5W	1.2W
Operating Temperature	-10°C~40°C	-10°C~40°C	-10°C~40°C
Communication Interface	Standard Asynchronous Serial Port(Baud rate 230,400 bps)	Standard Asynchronous Serial Port(Baud rate 460,800 bps)	Standard Asynchronous Serial Port(Baud rate 230,400 bps)
IP Grade	IPX-4	IPX-4	IPX-4
Anti-light	4K lux	> 80K Lux	60K Lux
Weight	60g	≈60g	≈60g
Dimensions (DxH)	Φ52x36.1 mm	Φ52x36.1 mm	Φ52x36.1 mm



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
Accuracy	±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/sec², lasting for 11ms
FPS	5Hz/10Hz/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 underwater mapping LiDAR system for airborne and shipborne use. It provides two different wavelengths (green light and infrared (IR)) LiDAR channels that can acquire complementary scanning data, thereby providing two independent point cloud distribution maps with reflectivity. With the specific green laser wavelength channel, underwater targets can be measured, achieving 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)	380x23x250(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		

LS72A

Three-Point Laser Distance Sensor

LS72A three-point laser distance sensor utilizes the TOF (Time of Flight) technology to conduct distance detection at a fixed angle. With a detection accuracy of ±5cm and a maximum range of 100m, it is primarily used in indoor service robots, AGVs, cleaning and disinfection robots, drones, commercial vehicles, and other applications that require precise ranging and obstacle avoidance.

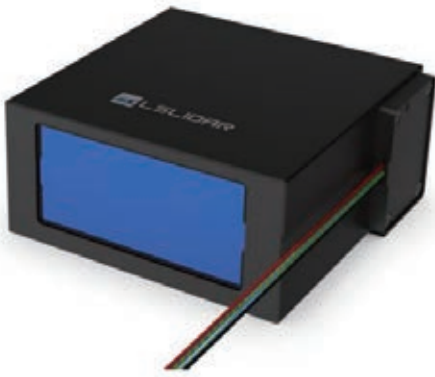


Detection Method	TOF	Interface	CAN
Detection Range	50m@10%	Operating Temperature	-40°C~85°C
Range Accuracy	±5cm (1σ)	Storage Temperature	-50°C~105°C
FPS	10~200Hz (Adjustable)	IP Grade	IP67
Horizontal Angle	0°~±0.9°	Power Consumption	2W
Wavelength	905nm	Input Voltage	6~18VDC
Laser Class	Class I	Dimensions (LxWxH)	76x74x35mm
Data Point Generating Rate	30~600 pts/sec		

LS72B

Laser Distance Sensor

LS72B series laser distance sensor adopts the TOF(Time of Flight) scheme, which can detect the distance at a fixed Angle. The design detection accuracy reaches $\pm 3\text{cm}$ and the maximum measuring range is 100m. It is mainly used in indoor service robots, AGVs, cleaning robots, drones and other applications requiring accurate ranging and obstacle avoidance.



Wavelength	905nm	Power Consumption	3W
Laser Class	Class I	Input Voltage	6~18 V
Detection Range	0.05~100 m (@10%)	Operating Temperature	-40°C~85°C
Range Accuracy	$\pm 3\text{ cm}$ (1 σ)	Storage Temperature	-40°C ~ 105°C
FPS	10 Hz~200 Hz (Adjustable)	Dimensions (LxWxH)	76*74*35mm (Interface Excluded)
Echo Frequency	Single / Dual Echo (Factory Settings)	Weight	260g
Interface	CAN		



INTELLIGENT TRANSPORTATION SYSTEM(ITS) SOLUTION

LiDAR INDUSTRY APPLICATION SOLUTIONS

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.

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



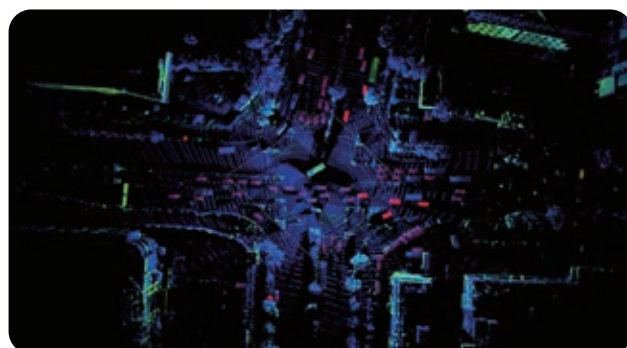
CH128X1

Accurate detection

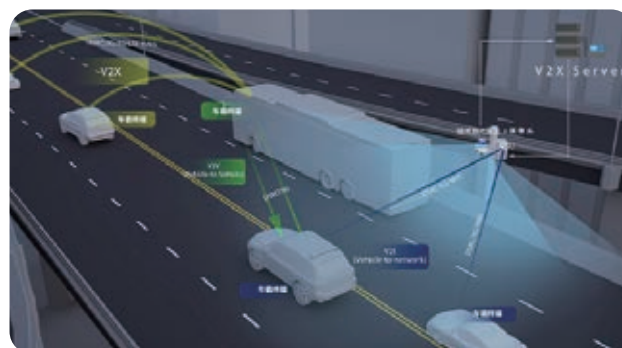
Full road coverage

Accurate identification of target attributes

Event judgment



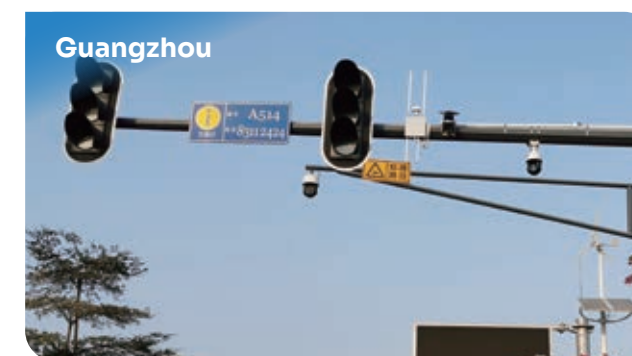
All-Round detection coverage without any blind zone



Effect of visual identification and classification



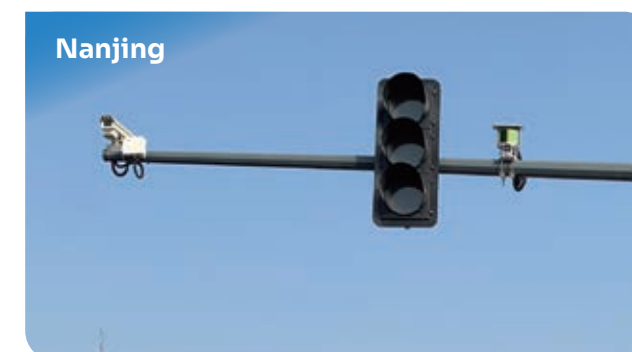
Tianjin



Guangzhou



Xian



Nanjing



Beijing

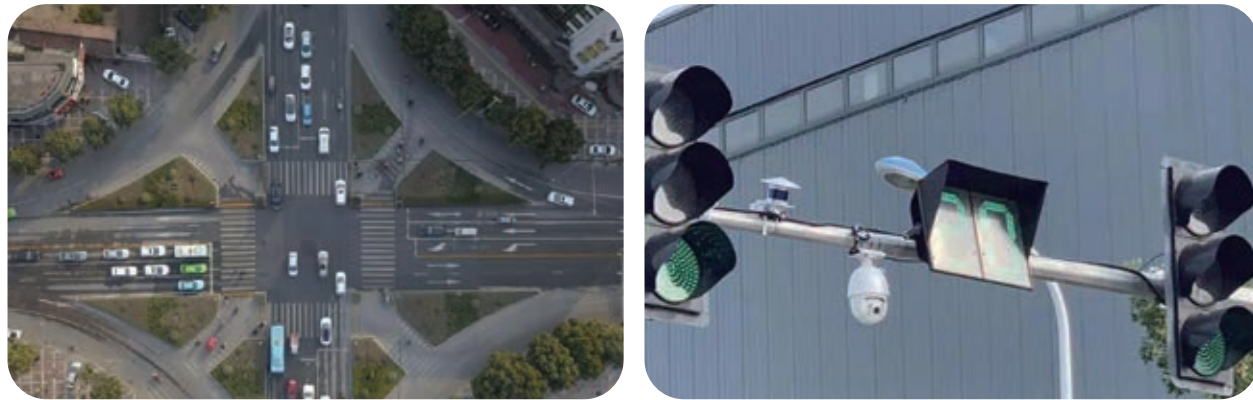


Shenzhen

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



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



● APPLICATION

- 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



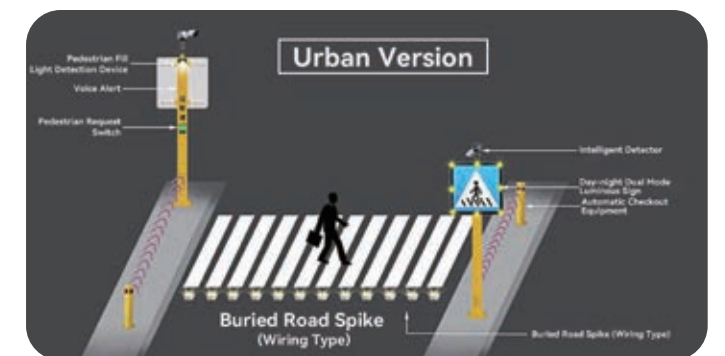
Intelligent network test zone



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**



● ADVANTAGE

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.

● APPLICATION



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

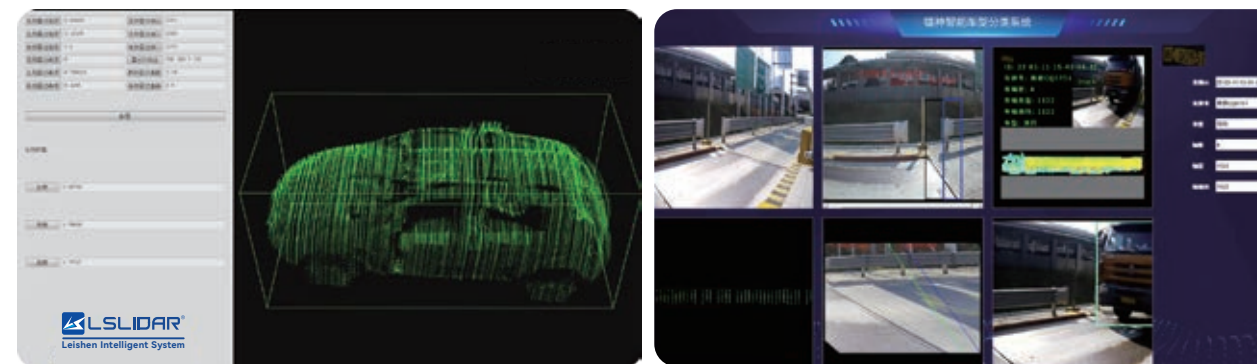
The Vehicle Type Classification System, according to the Highway Freight Vehicle Overload Recognition Standard, is capable of fully automatically identify the axle type of 2-6 axle freight vehicles, including the number of vehicle axles, the number of drive axles, axle arrangement and standard limits,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

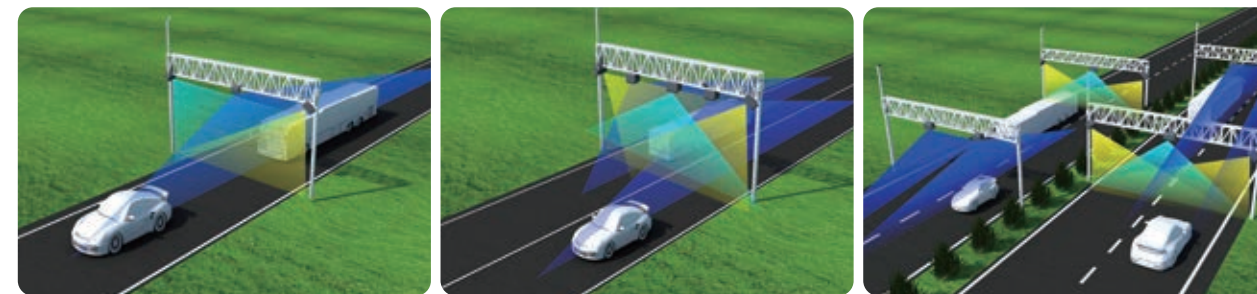
Vehicle Contour Detection System is a set of fully automatic non-contact equipment for vehicle length, width and height detection, using the most advanced high-speed Lidar as a sensor, the detection accuracy is significantly higher than other current non-contact detection technologies, such as microwave,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

Real-time Modeling

Accurate Detection

Status Monitoring

Self-monitoring



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

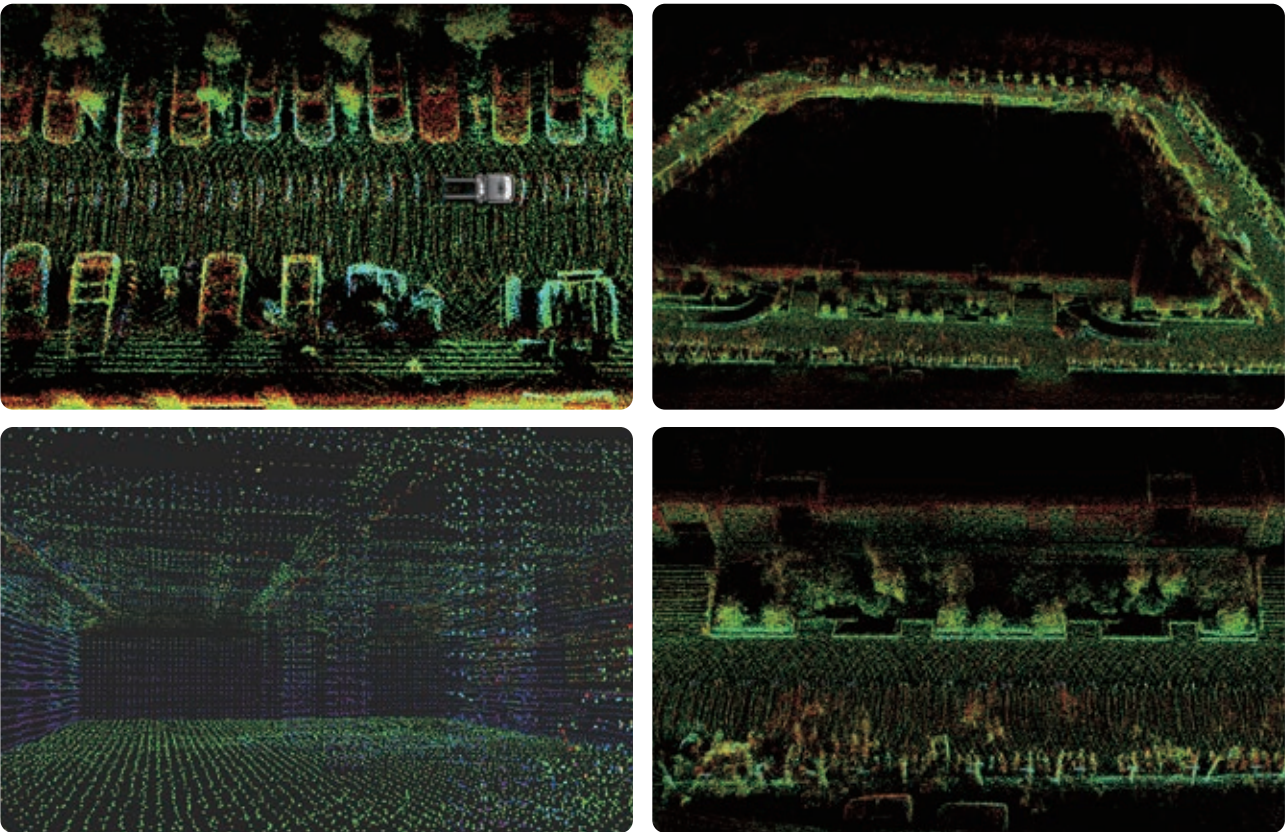
- Dual-drive Differential
- Four-drive Differential
- Twin-rudder Wheel (1)
- Twin-rudder Wheel (2)
- Four-rudder Wheel

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

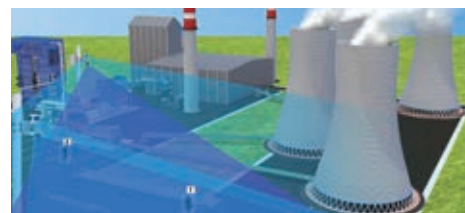
LiDAR INDUSTRY APPLICATION SOLUTIONS

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.

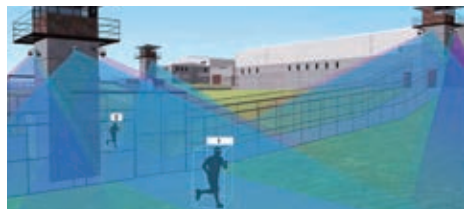
APPLICATION



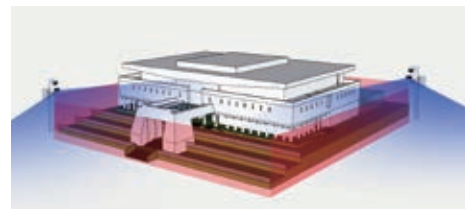
Airports Perimeter Security



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

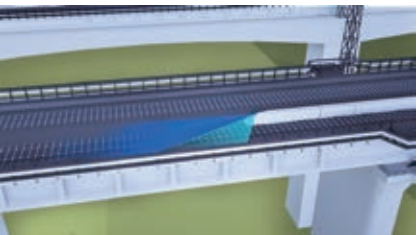
Efficient Work All Day

Self-monitoring

●INSTALL EFFECT



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



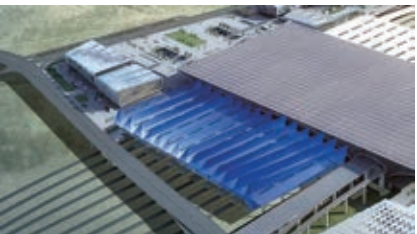
Subway Screen Door Foreign
Body Detection Solution
(Door End)



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

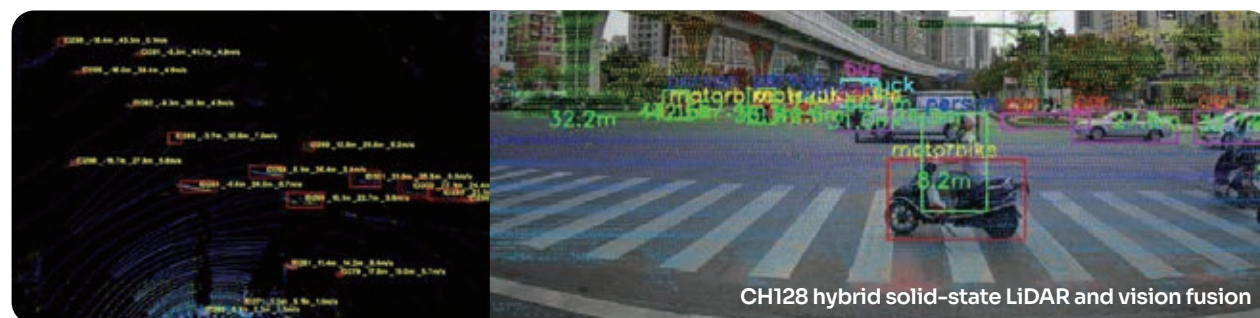
LSLiDAR's multi-sensor fusion environment perception system combines sensors including LiDAR, camera, millimeter wave radar, taking advantage of function complementarity and leading neural network algorithm to ensure the safety redundancy of autonomous driving, can accurately identify vehicles, lanes,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

High safety
redundancy

Accurate positioning
and navigation

Deep Learning

Multiple LiDAR
Alternatives



CH128 hybrid solid-state LiDAR and vision fusion

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

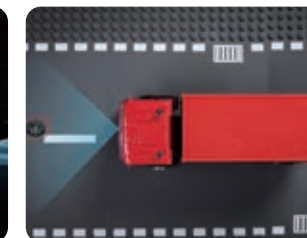
Fast Reaction

24-hour Monitoring

APPLICATION



Pedestrian collision
warning



Emergency intrusion
warning



Safe distance
warning



Lane deviation
warning

Low-speed Autonomous Vehicle System

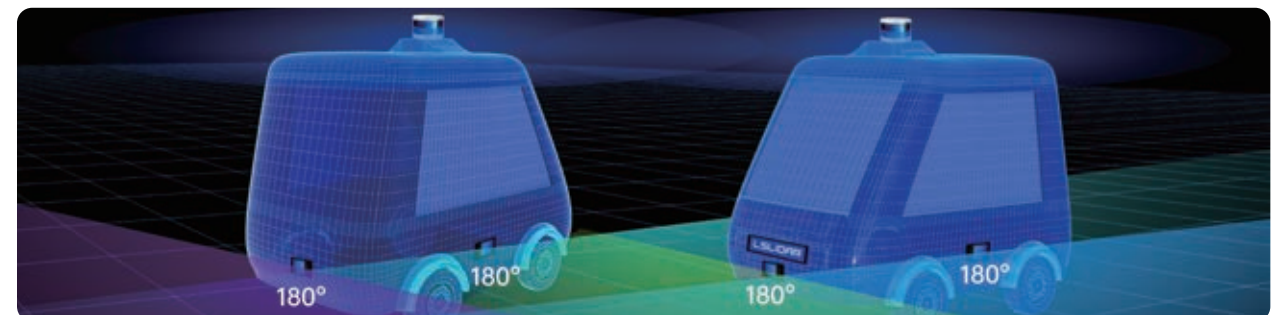
The perception system of Low-speed Autonomous Vehicles utilizes sensors installed around the vehicle to build environmental maps and detect, identify, and process environmental information. It mainly comprises sensor modules, mapping modules, and real-time multi-sensor data fusion processing modules. The multi-line LiDAR mounted on the roof serves as the primary sensor for scanning and detecting the area environment where the vehicle operates. By employing laser 3D SLAM technology, incremental real-time mapping of large-scale scenes is achieved, thereby providing accurate three-dimensional high-precision laser maps for path planning and backend matching and positioning.

Powerful percept
on capabilities

Autonomous
navigation

Universal application
for both indoor and
outdoor environments

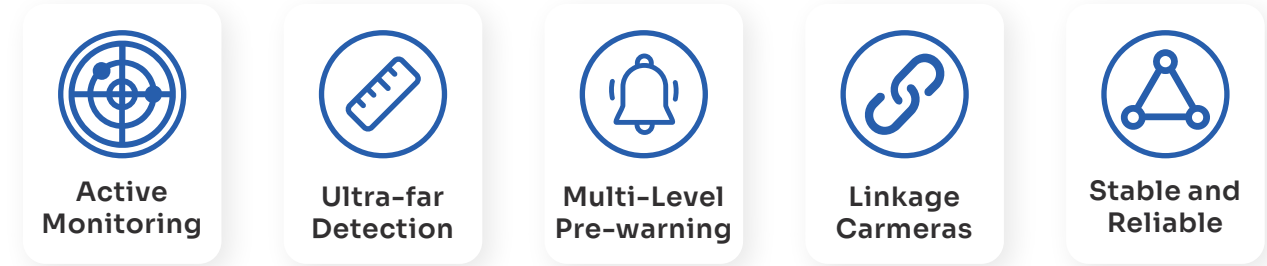
A wide range of
LiDAR options to
choose from



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.

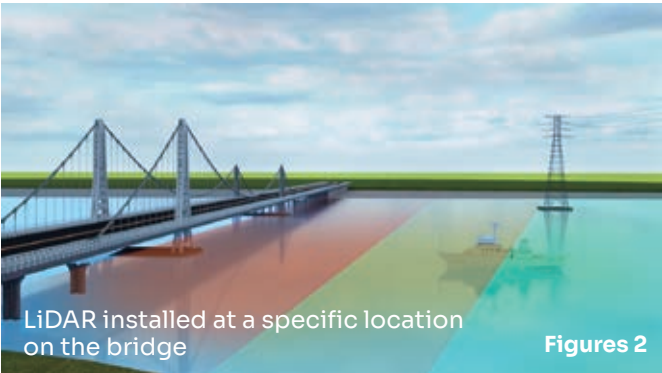


● ADVANTAGE

- 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.

● ADVANTAGE

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.

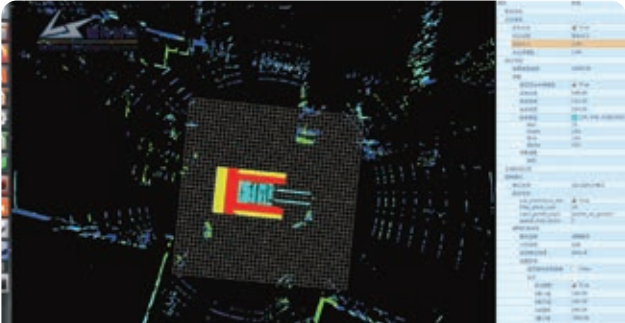
System Stability

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.

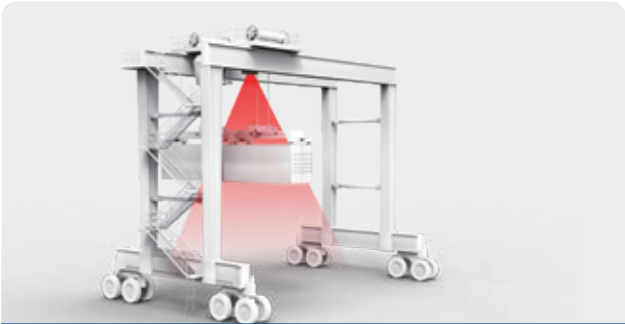
● APPLICATION



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

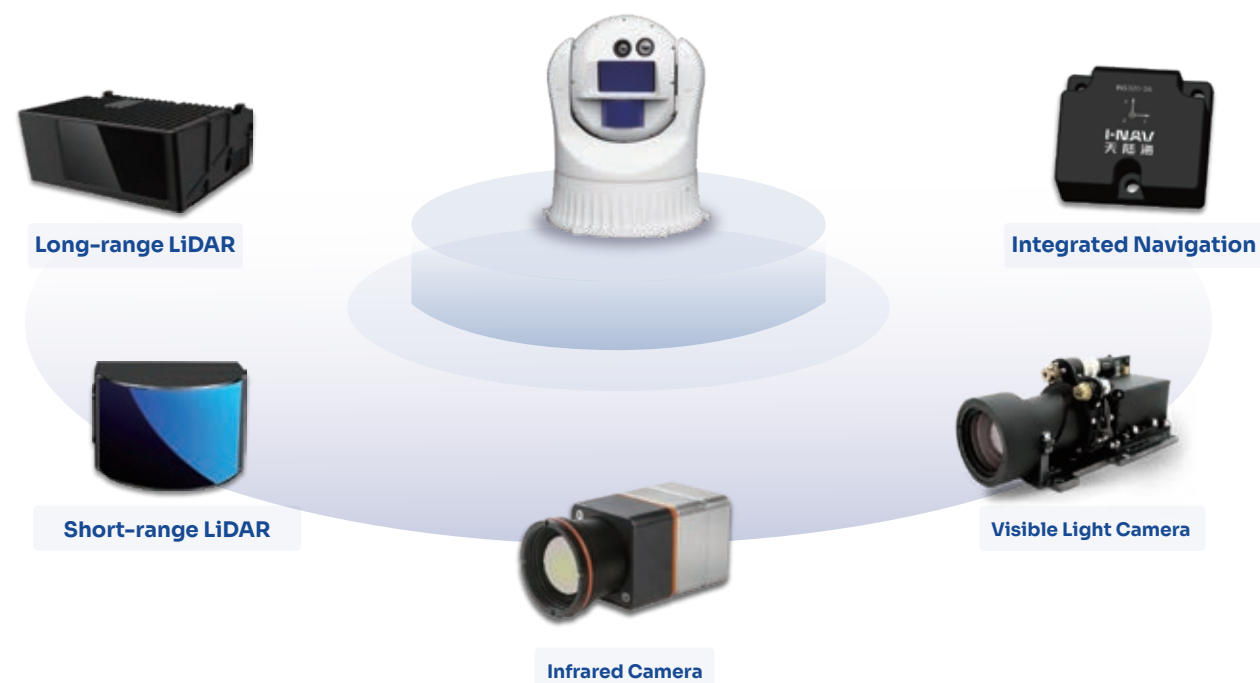
LONG RANGE DISTANCE AND WIDE RANGE

INTELLIGENT TARGET IDENTIFICATION AND DEFENSE

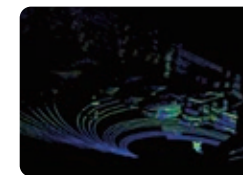
EXCELLENT ANTI-VIBRATION CAPABILITY

ALL-WEATHER 24/7 APPLICABILITY

WIDE ADAPTABILITY



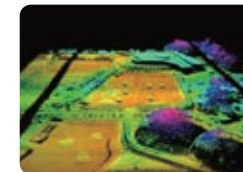
● FUNCTIONAL DESCRIPTION



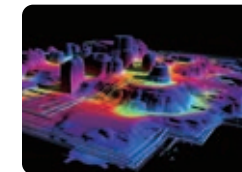
Integrates capabilities of LiDAR, integrated navigation, visible light camera, and infrared camera data fusion function.



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



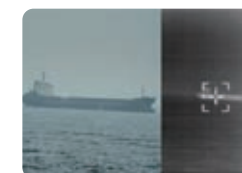
Rapidly reconstructs 3D environmental models, builds global maps, and provides reliable terrain data including flat ground, hills, ponds and other landforms.



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.

● APPLICATION



MARINE EXPLORATION



MARITIME RESCUE



MAP SURVEYING



INTELLIGENT SECURITY



TRAFFIC MANAGEMENT

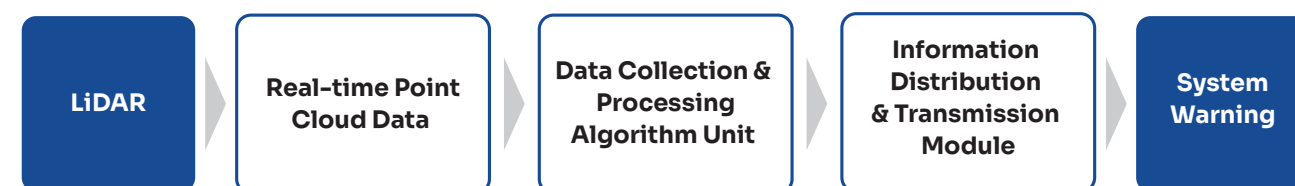


LAW ENFORCEMENT

FLYING CAR OBSTACLE AVOIDANCE

LiDAR INDUSTRY APPLICATION SOLUTIONS

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.

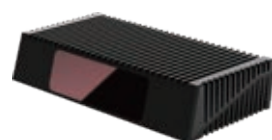


Application Solution to Flying Cars (Maximum Design Speed:120km/h~200km/h)



MS06

(Long-distance Obstacle Detection)



LS Series

(Close-range Obstacle Avoidance & Blind Spot Detection)



LS72A

(Monitor Terrain Clearance)

Application Solution to Flying Cars (Maximum Design Speed:below 120km/h)



CH128X1

(Long-distance Obstacle Detection)



CB64

(Close-range Obstacle Avoidance & Blind Spot Detection)



LS72A

(Monitor Terrain Clearance)

●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.