镭神智能
LeiShen Intelligent System

LS LIDAR
PRODUCT GUIDE

AGV & ROBOTS
APPLICATIONS

Service robots

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AGV

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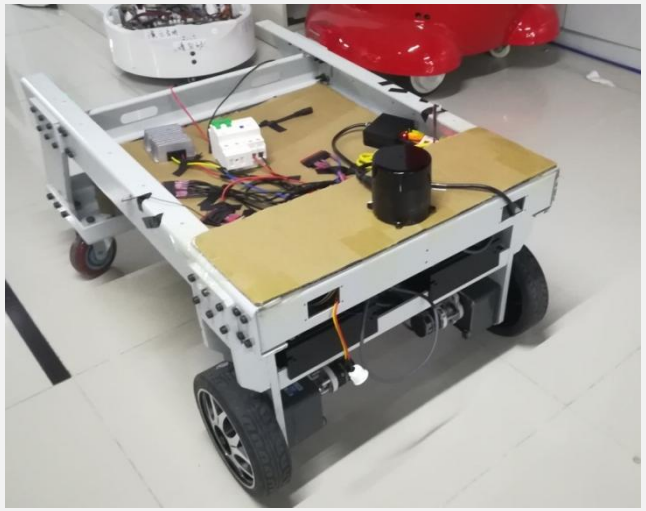


CX Series 32 / 20-Channel LiDAR

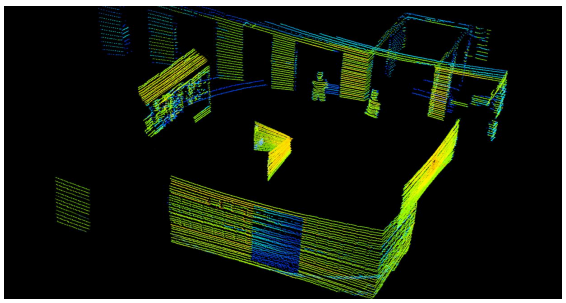
Abstract

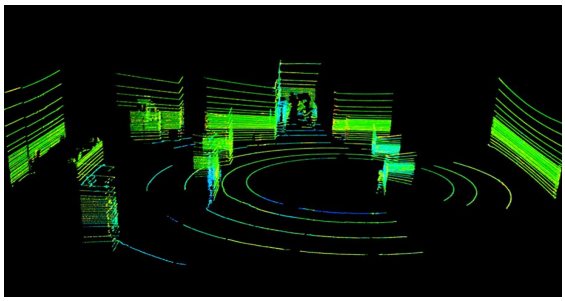
CX Series 32 / 20 channel LiDAR achieves 360° 3D high-speed scanning with 3 20-beam laser, measurement range up to 200 m, ±3cm accuracy, minimum vertical angle resolution up to 0.33°(C32) /1°(C20), C32 widely used in autonomous vehicle, ADAS, smart transportation, service robots, logistics, surveying and mapping, security and so on. The C20 channel LIDAR can detect moving targets on large-area scenes with 16-beam laser scanning down, which widely used in V2X , smart transportation

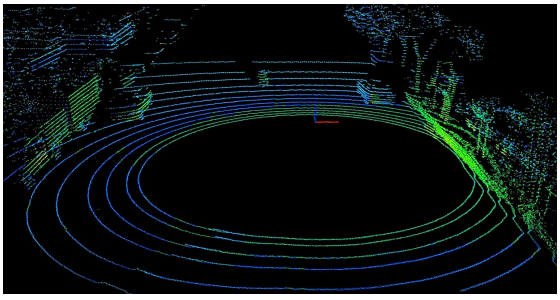
Features

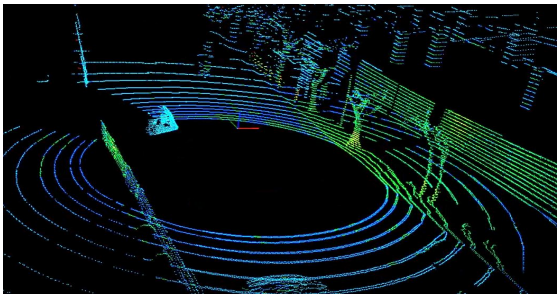
- High point density, capability of generating approximately 640,000 point per second (C32) / 400,000 point per second (C20) .
- Wide field of view, with 360° horizontal FOV and 32°vertical FOV.
- The C32 Vertical angular resolution up to 0.33°, focused on front area data acquisition.

Demo





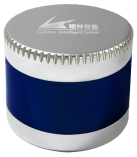




Specifications

Model		C32		C20
Channel		32		20
Measurement Technique		Time of Flight(TOF)		
Wavelength		905nm		
Laser Product Classification		Class 1 Eye-safe/ IEC 60825-1:2007 & 2014		
Measurement Range		70m / 120m /150m		
Ranging Accuracy		±3cm		
Data Points Generated		640,000points per second		400,000points per second
Rotation Rate		5Hz，10Hz，20Hz		
Field of View (FOV)	Horizontal	360°		
	Vertical	-16°~ 15°	-18°~ 14°	-16°~ 3°
Angular Resolution	Horizontal	5Hz: 0.09° / 10Hz: 0.18° / 20Hz: 0.36°		
	Vertical	0.33° / 1°		
Operating Voltage		9V~ 36VDC		
Operating Temperature		-20℃ ~ 60℃（Customized up to -40℃）		
Communication Interface		Ethernet，PPS		
Shock Test		500m/sec^2，last11ms		
Vibration		5Hz-2000Hz，3G rms		
IP		IP 67		
Dimension（D·H）		Φ120*110mm		
Weight		1600g		

CX Series 16-Channel LiDAR



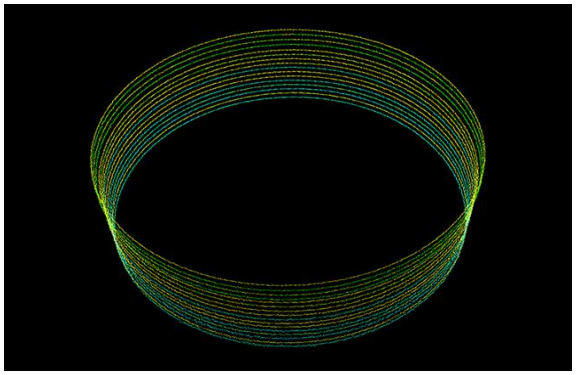
Abstract

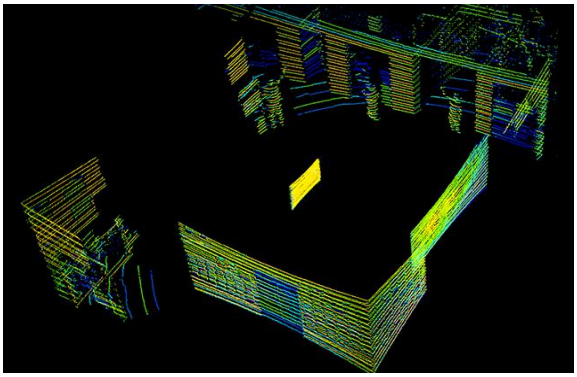
CX Series 16 channel LIDAR achieves 360 ° 3D high-speed scanning with 16-beam laser, measurement range up to 200 m, ±3cm accuracy, up to 1.33°vertical angle resolution, widely used in autonomous vehicle, ADAS, smart transportation, service robots, logistics, surveying and mapping, security and so on.

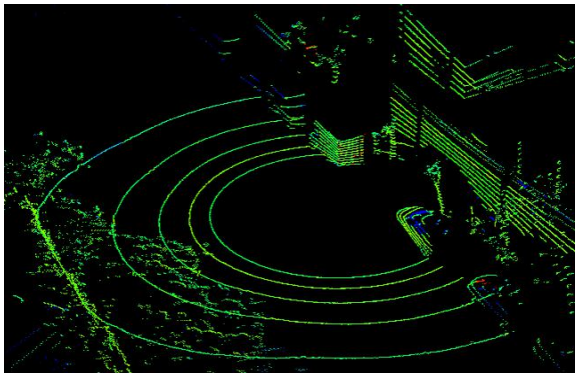
Features

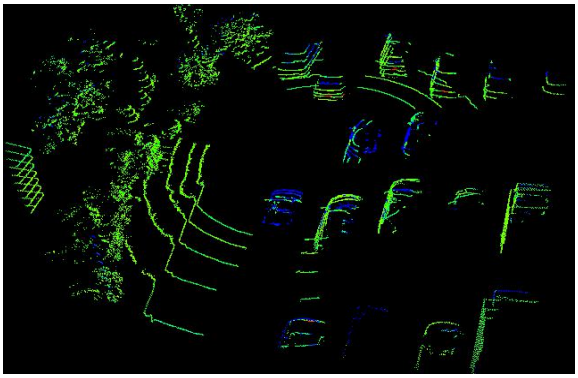
- High point density, capable of generating approximately 320,000 3D point cloud coordinates per second
- Wide field of view, with 360°horizontal FOV and 32°vertical FOV.
- Compact size and light weight

Demo









Specifications

Model		C16			
Channel		16			
Measurement Technique		Time of Flight (TOF)			
Wavelength		905nm			
Laser Product Classification		Class 1 Eye-safe/ IEC 60825-1:2007 & 2014			
Measurement Range		70m / 120m / 150m			
Ranging Accuracy		±3cm			
Data Points Generated		320,000 points per second			
Rotation Rate		5Hz , 10Hz , 20Hz			
Field of View (FOV)	Horizontal	360°			
	Vertical	-15°~ 15°	-14°~ 16°	-15°~ 15°	-10°~ 10°
Angular Resolution	Horizontal	5Hz: 0.09° / 10Hz: 0.18° / 20Hz: 0.36°			
	Vertical	2°		2°	1.33°
Operating Voltage		9V~ 36VDC			
Communication Interface		Ethernet , PPS			
Operating Temperature		-20℃ ~ 60℃ (Customized up to -40℃)			
Shock Test		500m/sec² , last11ms			
Vibration		5Hz-2000Hz , 3G rms			
IP		IP 67			
Dimension (D·H)		120*110mm		102*78mm	
Weight		1600g		1000g	

N301 Series TOF Navigation & Obstacle Avoidance LiDAR

Abstract

The N301 series of LiDAR adopt the TOF principle, with a 360° scanning and measurement range is up to 150m. The ranging accuracy is ±3cm, which can identify the position, size and moving direction of the detected object in real time.

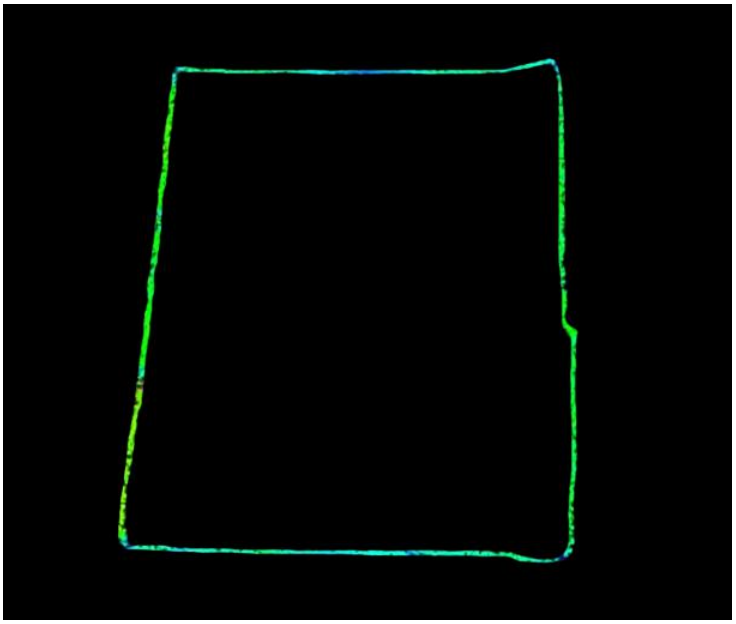
Features

- 360° FOV , long measurement range
- The minimum angular resolution reaches 0.18°, ensuring measurement data accurately and stably.
- Configuring an Ethernet interface for high-speed data transmission

Application field

- ADAS
- High-precision Autonomous positioning and navigation of service robots
- AGV navigation and obstacle avoidance, regional security

Demo



Specifications

Model	N301	N301HA
Wavelength	905nm	
Laser Product Classification	Class 1Eye-safe /IEC 60825-1:2007&2014	
Data content	Distance /Angle	
Measurement Range	10m/30m/50m/100m	
Ranging Accuracy	±3cm	
Positioning accuracy	±1cm	
Scanning angle	360°	
Rotation Rate	10Hz / 20Hz	
Pulse Repetition Rate	20,000 points per second	300,000 points per second
Angular Resolution	20Hz:0.36° 10Hz:0.18°	20Hz:0.024° 10Hz:0.012
Operating Voltage	9V ~ 36VDC	
Operating Temperature	-20℃ ~ 60℃	
Motor	Built-in Brushless Motor	
Communication Interface	Ethernet	
Weight	420g(±20g)	
Dimension (D·H)	Φ80*79.1mm	

N401 Series TOF Navigation Obstacle Avoidance LiDAR

Abstract

The N401 series of LiDAR adopt the TOF principle, with a 360°scanning and measurement range is up to 150m. the distance accuracy can reach ±1cm base on reflector.Widely used in robot, AGV High-precision positioning and navigation, obstacle avoidance.

Specifications

Model	N401	N401HA
Wavelength	905nm	
Laser Product Classification	Class 1Eye-safe /IEC 60825-1:2007&2014	
Data content	Distance /Angle /Reflectivity	
Measurement Range	10m/30m/50m/100m	
Ranging Accuracy	±3cm	
Positioning accuracy	±1cm	
Scanning angle	360°	
Rotation Rate	10Hz / 20Hz	
Pulse Repetition Rate	20,000 points per second	300,000 points per second
Angular Resolution	20Hz:0.36° 10Hz:0.18°	20Hz:0.024° 10Hz:0.012
Operating Voltage	9V ~ 36VDC	
Operating Temperature	-20℃ ~ 60℃	
Motor	Built-in Brushless Motor	
Communication Interface	Ethernet	
Weight	420g(±20g)	
Dimension (D·H)	Φ80*79.1mm	

W Series TOF Anti-collision LiDAR

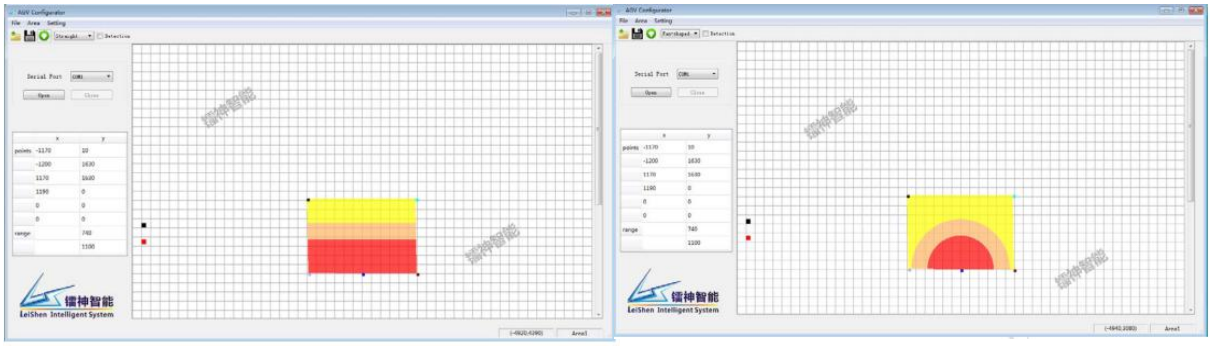
Abstract

LeiShen W series Anti-collision Laser Scanner is mainly applied to performs collision avoidance and area detection for AGV, RGV, Robot, ect. There are 15 field sets to be chosen and finally output with signals of switching values and point cloud

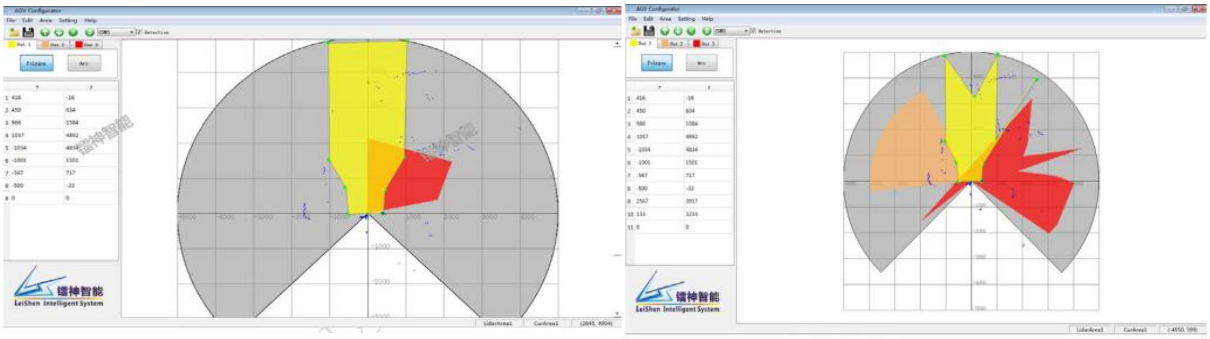
Features

- Simultaneous output of switch and point cloud data
- Flexible configuration to detection areas.
- With 15 detection areas selectable and two detecting mode: independent type and correlation type

Regional association



Regional independent



Specifications

Model	W Series
Output	Switching Value and Point Cloud Data/ Switching Value
Scanning angle	270°
Rotation Rate	10 Hz
Measurement Range	5m/10m/30m
Angular Resolution	1° / 0.36°
Monitoring area	Correlation/ Independent
Operating Voltage	9V~28VDC
Operating Temperature	-20℃ ~ 60℃
Shock Test	500m/sec^2 , last11ms
Vibration	5Hz-2000Hz , 3G rms
IP	IP 67
Weight	397g
Interface	NPN , PNP
Dimension (D·H)	Φ80*77.3mm

LS01 Series 360°Triangular LiDAR

Abstract

LS01 series LiDAR is a 2D LiDAR developed by Leishen. This series LiDAR can do 360° 2D scanning to generate spatial point cloud map .

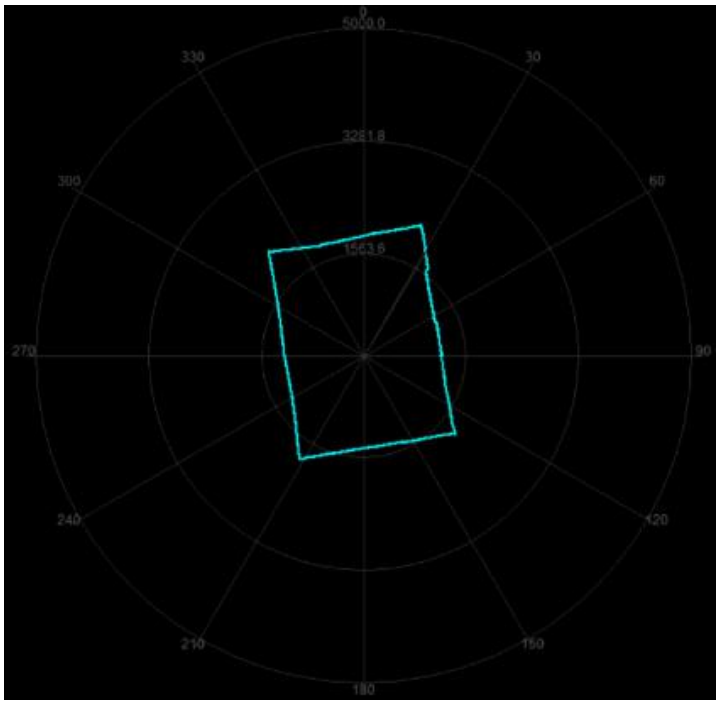
Features

- Triangulation principle , Cost-effective
- Max light intensity up to 20,000lux
- Compact, low power consumption, durable

Applications

- Robotic self-navigation and positioning
- AGV self-navigation and positioning

Demo (LS01B)



LS02 Series Solid State LiDAR

LS02A/ LS02B **LS02C/ LS02D**

ABSTRACT

LS02A sensor is a low-cost 2D Solid LIDAR developed by LeiShen Intelligent System Co., Ltd. It performs 86 degree laser scanning and ranging with structured light through a semiconductorlaser. Comparing with rotating sensors, it has longer service lifetime, higher stability, and lower cost.

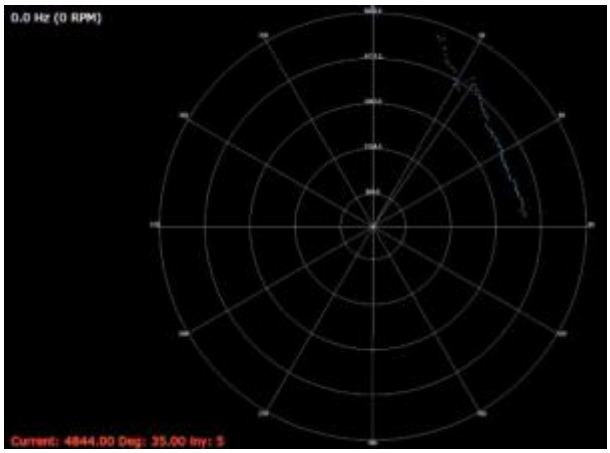
FEATURES

- Solid State, High reliability, Long service lifetime.
- Light and small, 50g weight at most.
- High Accuracy, Low-cost.
- Strong anti-disturbance capacity

Application

- Navigation & anti-collision of service robot, Cleaning robot, AGV.
- Anti-collision of ADAS.

PC Software Display (take LS02A as example)



Specification

Model	LS02A	LS02B	LS02C	LS02D
FOV	86°			
Detection Range	0.1~4m(under 70% reflectivity)			
Angular Resolution	1°	0.5°	1°	0.5°
Distance Tolerance	≤1.5% of distance		≤1.5% of Ranging	
Scan rate	10Hz			
Weight	50g			
Size(W×L×H)	40×30×65mm		40×37×45mm	
Dara output				

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