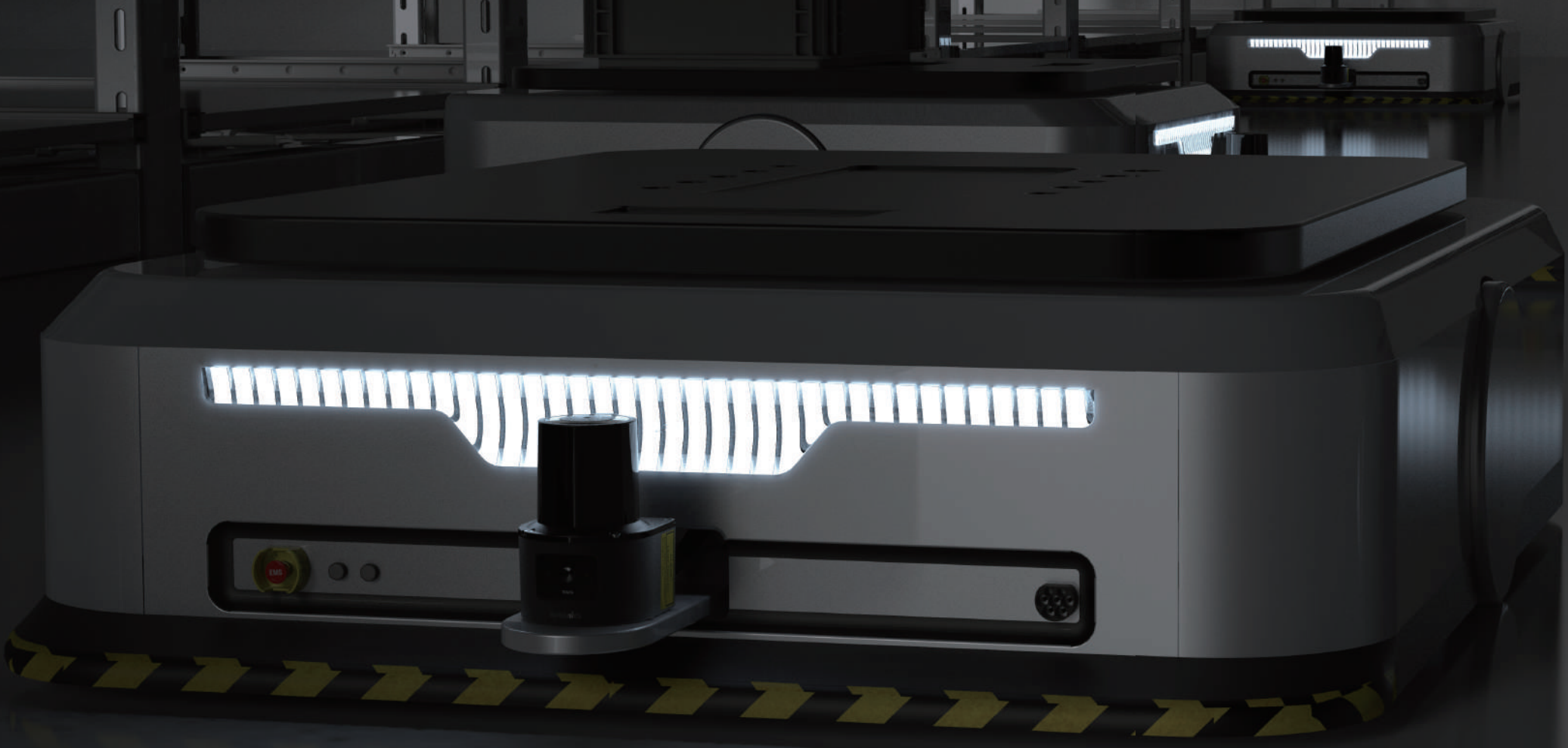




# Compact LiDAR LSC Series

The perfect Solution for Presence Detection

# Better, Wider, Autonics Compact LiDAR



- |   |  |
|---|--|
| <b>Max. 270°</b><br>Detection Angle             | <b>Max. 25 m</b><br>Detection Distance |
| <b>15 Hz</b><br>Scanning Frequency              | <b>0.33°</b><br>Angular Resolution     |
| <b>NPN/PNP</b><br>Open Collector Output Setting | <b>Max. 16</b><br>Field Sets           |
| <b>Bluetooth</b><br>Communication               | <b>Compact</b><br>Size                 |





2D 270° Compact LiDAR

# LSC Series

LiDAR sensors utilize time-of-flight (ToF) method to measure the round trip time of the infrared laser beam, to accurately detect presence of objects within a wide range area.

As the logistics robots and service market has grown, interest in LiDAR sensors is increasing. This technology can be applied in various industries such as AGV, OHT, drone, automobile, aircraft, and satellite to detect the surrounding environment, autonomous driving, collision prevention, and entrances. In addition, LiDAR sensors are highly utilized to detect objects within a wide range flexibly and accurately.

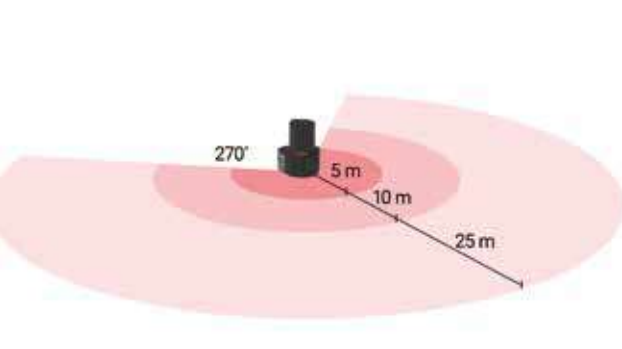
The new LSC series LiDAR sensors from Autonics is available in 3 detection distance models (5 m / 10 m / 25 m). The compact size makes it optimal for use in small and medium-sized equipment. The laser scanners feature horizontal 270° detection area, angular resolution of 0.33°, and uses a 905 nm laser to meet Laser Class 1 for precise detection and measurement.

The scanners offer 16 field sets and teaching function for flexible installation and Ethernet / Bluetooth communication allows easy configuration with PC and mobile application. The ROS (Robot Operation System) driver is also supported for SLAM (Simultaneous Localization and Mapping) function of AGV/AMR.

## Main Features

- Wide range detection area : 270° detection angle, 25 m detection distance
- Number of field sets : 16 (1 set : consists of 3 subfields)
- Various filter function for accurate detection
- Compact size for flexible installation (L60 x W60 x H86mm)
- Ethernet and Bluetooth communication
- atLiDAR software provided for PC and Android devices
- ROS, API supported
- Bluetooth model availability may differ by country

## Detailed Features



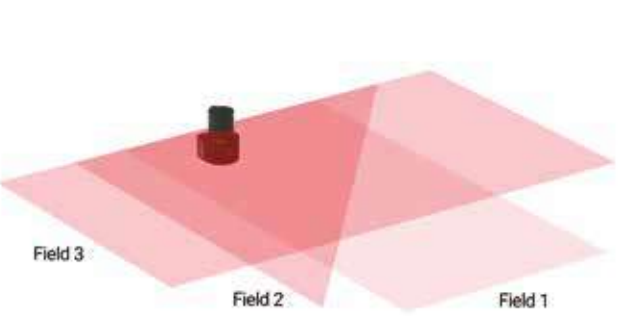
270° Detection Angle, 25 m Detection Distance

The LSC series laser scanners offer wide range detection area with horizontal 270° detection angle and up to 25 m detection distance.



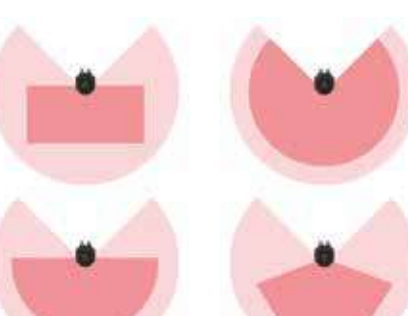
Auto Set Detection Area with Teaching Function

Users can use the teaching function to automatically set optimal detection area. This function can be operated also with dedicated software and other input signals.



Flexible Field Configuration

The laser scanners can set 16 types of field sets with 4 input types. Each field set consists of 3 sub-fields and each sub-field are individually connected to outputs.



Intuitive Detection Format Setting

Each sub-field can be configured in the form of rectangles, circles and polygons for easy and flexible application.



Easy Parameter Setting with Mobile Application

The LSC series offer Bluetooth communication for parameter setting with mobile (Android) devices.

\* Bluetooth model availability may differ by country



Dedicated Software atLiDAR Provided

Users can easily set parameters and monitor status with dedicated software atLiDAR. The intuitive and user-friendly interface allows users to easily operate laser scanners.

## Application



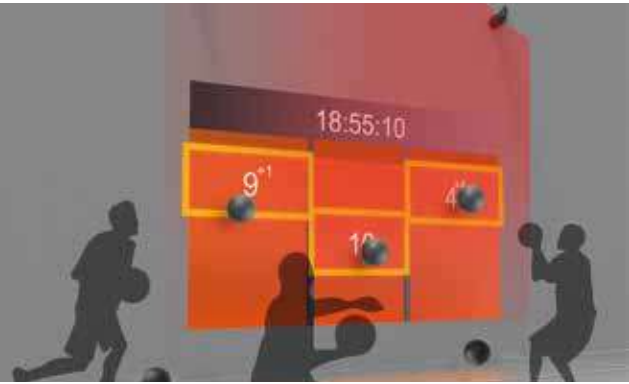
Autonomous Mobile Robot

Laser scanners are used in Automated Guided Vehicle and Autonomous Mobile Robot to prevent collisions with personnel and objects.



Collision Prevention

Laser scanners used to prevent collisions between objects in OHT (Overhead Hoist Transport) equipment operation.



Interactive Media

Laser scanners can be used in various interactive contents for education, promotion, arts and more.



Security

Laser scanners used for security purposes at retail stores.



Environment Detection

Laser scanner can be used to detect occupancy status of tray and to detect size of pallet for pick-up.



Abnormality Detection

Laser scanners are used to identify the inner condition of tote boxes on shipping conveyor belts.

## Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

LSC	-	①	②	③	④	-	⑤
① Scan angle							
C: 270°							
② Detection distance							
Number: Detection distance (unit: m)							
③ Connection							
C: Connector type							
④ Control output							
T3: 3 (Transistor)							
⑤ Ethernet TCP/IP							
ET: Supported							

## Specifications

Model	LSC-C5CT3-ET	LSC-C10CT3-ET	LSC-C25CT3-ET
Environment of use	Indoor		
Emitting property	Infrared laser		
Laser class	CLASS 1		
Wave-length band	905 nm		
Max. pulse output power	6 W		
Light beam emitting angle	14.5 mrad		
Scanning frequency	15 Hz		
Response time	Typ. 67 ms		
Detection distance range	0.05 to 5 m	0.05 to 10 m	0.05 to 25 m
Detection distance of 10 % Reflector	5 m	8 m	
Detection distance error	System error: Typ. ± 60 mm, statistical error: Typ. 20 mm (1 σ)		
Min. object size <sup>01)</sup>	At detection distance of 8 m: ≈ 121 mm		
Angular resolution	0.33°		
Aperture angle	270°		
Object reflectivity	> 4 %		
Number of field sets	16 (1 set: Consists of subfields 1,2,3)		
Number of field sets that can be used concurrently	1		
Unit weight (package)	≈ 228 g (314 g)		
Certification	CE 标志		

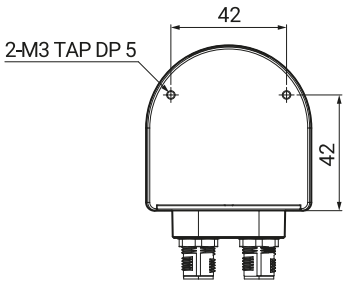
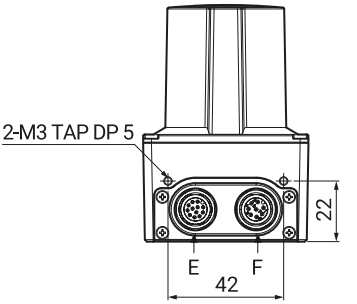
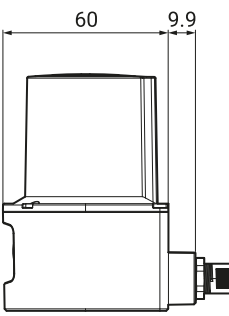
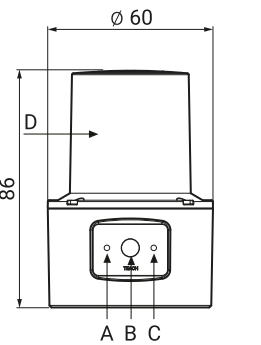
01) Even objects smaller than the set min. object size can be detected depending on the environment.

Power supply	9 - 28 VDC≡
Power consumption <sup>01)</sup>	< 4 W
Input	4 Photocoupler inputs - H: ≥ 9 - 28 VDC≡, L: ≤ 3 VDC≡
Output signal	4: 3-output + 1-Ready / Error, Sync output NPN-PNP open collector output setting (software)
Load voltage	9 - 28 VDC≡
Load current	≤ 100 mA
Residual voltage	≤ 3.0 VDC≡
Insulation resistance	≥ 5 MΩ (500 VDC≡ megger)
Dielectric strength	Between the charging part and the case: 500 VAC ~ 50 / 60 Hz for 1 minute
Vibration	10 sweep cycles in each X, Y, Z axes at sine wave, 10 to 500 Hz, acceleration 5 G
Vibration (malfunction)	10 minutes in each X, Y, Z axes at sine wave, 10 to 500 Hz, acceleration 5 G
Vibration (irregular)	5 hours in each X, Y, Z axes at 5 to 250 Hz, 42.4 m/s <sup>2</sup> RMS
Shock	3 times in each X, Y, Z axes at sine half wave, acceleration 50 G, duration 11 ms 1000 times in each X, Y, Z axes at sine half wave, acceleration 25 G, duration 6 ms 5000 times in each X, Y, Z axes at sine half wave, acceleration 50 G, duration 3 ms
Shock (malfunction)	6 times in each X, Y, Z axes at sine half wave, acceleration 50 G, duration 11 ms
Ambient illuminance	≤ 80,000 lx
Ambient temperature	-10 to 50 °C, storage: -30 to 70 °C (no freezing or condensation)
Ambient humidity	0 to 95 %RH, storage: 0 to 95 %RH (no freezing or condensation)
Protection structure	IP67 (IEC standard)
Connector specification	Power I / O: M12 12-pin, Ethernet: M12 8-pin
Material	Case: AL, Window: PC

01) Excluding power supplied to the load

## Dimensions

\*Unit: mm, For the detailed drawings, follow the Autonics website.



A	Power indicator	D	Window
B	Teaching button	E	Power I / O connector
C	Detection indicator	F	Ethernet connector



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## Products

### Sensors, Controllers, Motion Devices, Safety, Measuring Equipment, Connection Equipment and more

• Photoelectric Sensors • Photomicro Sensors • Fiber Optic Sensors • Door Sensors • Area Sensors • Proximity Sensors • LiDAR  
• Displacement Sensors • Ultrasonic Sensors • Rotary Encoders • Temperature Sensors • Temperature Transmitters • Pressure Sensors  
• Pressure Transmitters • Smart Camera • Vision Sensors • Safety Light Curtains • Safety Door Switches • Safety Switches • Safety  
Controllers • Temperature Controllers • Solid State Relays • Power Controllers • Counters • Timers • Digital Panel Meters  
• Digital Display Units • Sensor Controllers • SMPS • Industrial PC • HMIs • Recorders • Indicators • Network Converters  
• Closed Loop Stepper Motor System • 5-Phase Stepper Motor & Drivers • 2-Phase Stepper Motor Drivers • Motion Controllers  
• Industrial Networking • I/O Terminal Blocks • Distribution Boxes • Cables • Control Switches / Pilot Lights / Buzzers • Software

\* The dimensions or specifications on this product guide may change and some models may be discontinued without notice.

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