BEA

LZR®-VISIOSCAN RD

Laser scanner for AGV/AMR navigation
and obstacle avoidance

APPLICATIONS

TECHNOLOGY

Laser

DOWNLOAD

The LZR®-VISIOSCAN RD is a compact and reliable laser scanner for accurate navigation and obstacle avoidance of AGV/AMRs in complex industrial environments.

Based on the LASER time-of-flight technology, the sensor scans its surroundings over the opening angle of 275°. With its angular resolution of up to 0.1° and 25 m detection range, LZR®-VISIOSCAN RD is ideal for SLAM navigation applications for AMRs and Automatic Forklifts. The sensor is easy to configure and diagnose with the convenient USB Type-C port and the Visioscan Set software.
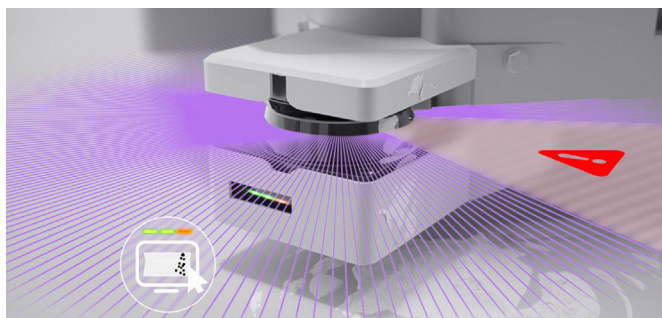

Precise measurements, ideal for SLAM navigation

LZR®-VISIOSCAN RD generates high density measurement data due to its **angular resolution of up to 0.1°**. The point cloud of the environmental contour is stable and consistent, independent of environmental lighting, target colour, and background interferences making it ideal for **SLAM navigation and obstacle avoidance**.
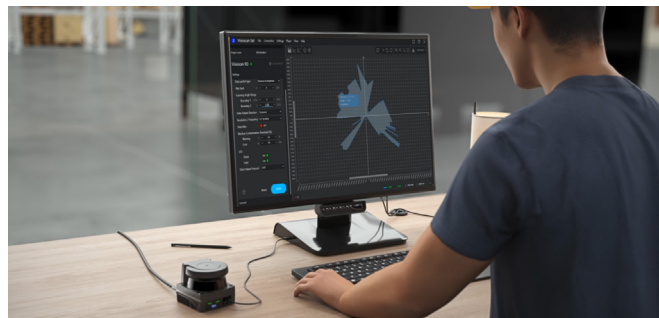

Robust build, maximising performance

The sensor's compact size with **a height of only 74 mm** makes it easy to integrate onto any type of AGV or AMR. The vibration and shock resistance reaching **class 5M2** & ingress protection enclosure of **IP67** ensures stable performance even in harsh environments.

Intelligent window monitoring system

The innovative and intelligent **window monitoring system** can instantly identify the zone and level of any contaminant on the optical window. Contamination thresholds are user defined and warnings alerted to users for preventive maintenance.
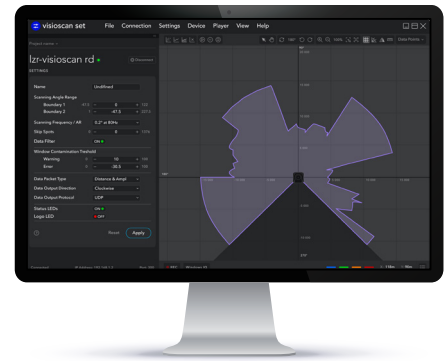

Smart and intuitive commissioning

The **Visioscan Set** software makes commissioning, configuration, and troubleshooting easy and convenient. With the **BEA ROS Driver**, and **SDK**, this sensor can be easily integrated into AGV & AMR systems.

VISIOSCAN SET

Visioscan Set is a Windows software that lets you configure the scanner and visualize the real-time detection point cloud. Parameters can be configured easily thanks to its intuitive user interface. Configurations can also be saved to file and loaded onto other scanners, making commissioning quick and easy. Troubleshooting is convenient with the Visioscan Set, as the error log and other scanner status, such as the window contamination, is readily available. Visioscan Set can be downloaded from BEA's website.
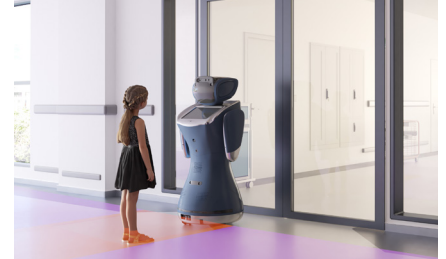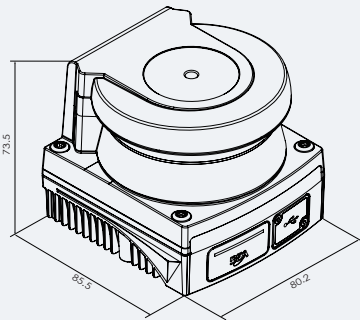
APPLICATIONS

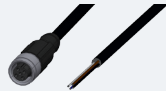Obstacle Avoidance of AGVs

Navigation and Obstacle Avoidance of AMRs

Navigation and Obstacle Avoidance of Service Robots

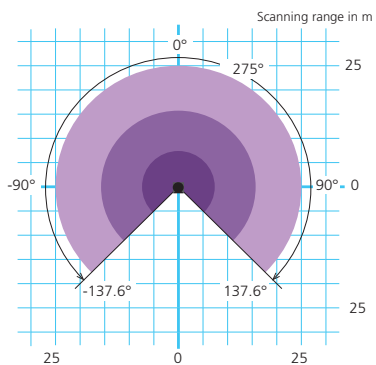## DIMENSIONS

ACCESSORIES

POWER CABLE

ETHERNET CABLE

MOUNTING BRACKET

TECHNICAL SPECIFICATIONS

Scanning range in m

- ● Scanning range for objects up to 1.8% reflectivity, typ. 7 m.
- ● Scanning range for objects up to 10% reflectivity, typ. 15 m.
- ● Max. scanning range 25 m.

Technology	Laser scanner, time-of-flight measurement; Output power < 0.1 mW; Class 1 (IEC/EN 60825-1)
Scanning range	0.08 – 25 m; 7 m @ 1.8% reflectivity; 15 m @ 10% reflectivity;
Scanning angle	275°
Angular resolution	0.2° @ 80 Hz, 0.1° @ 40 Hz
Operating voltage	12 – 24 V DC, - 10% / + 30%
	(External electrical sources must ensure double insulation from primary voltages.)
Measurement accuracy	
Systematic error	± 10 mm*
Statistical error (1)	≤ 6 mm (0.08 – 7 m); ≤ 10 mm (7 – 15 m)*
	≤ 6 mm (0.08 – 25 m) for reflectors
Ambient conditions	
Ambient light immunity	100,000 lux ambient light; 3,000 lux (IEC 61496-3)
Operating temperature	- 30°C to + 60°C
Enclosure	IP67
Ethernet	TCP / UDP
Default IP	192.168.1.2
Port	3050
USB	USB 2.0, Type-C
Conformity	EN 60825-1; EN 61000-6-2; EN 61000-6-3

* Typical value at 10% reflectivity up to 7 m scanning range or as specified; real values depends on ambient conditions and the target object.

Specifications are subject to changes without prior notice. All values measured in specific conditions.

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