LZR®-VISIOSCAN NAV

Accurate raw data laser scanner for
Automatic Forklift & AMR navigation

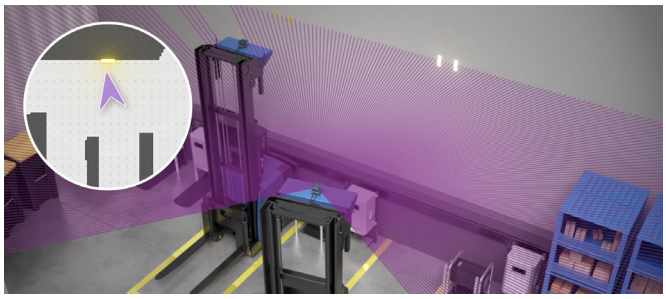
APPLICATIONS

TECHNOLOGY

Laser

The **LZR®-VISIOSCAN NAV** is a compact and reliable laser scanner for accurate navigation of automatic forklifts and AMRs in industrial environments.

Based on the LASER time-of-flight technology, the scanner scans a 2D plane over the opening angle of 275°. The scanner outputs accurate measurement data at an angular resolution of up to 0.025° through Ethernet communication. Designed and built to work under harsh industrial conditions.

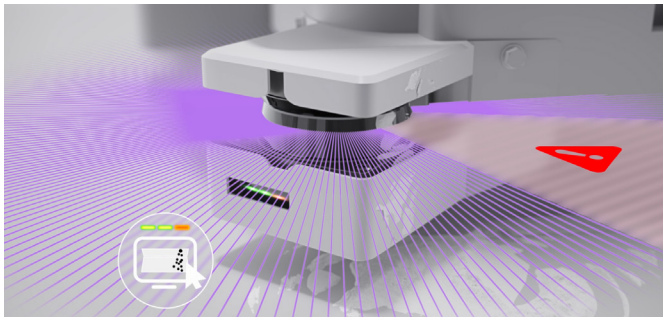


High-resolution measurements for SLAM navigation

Configurable angular resolution of up to **0.025°** for a precise mapping of the surroundings, or a scanning frequency of up to **80 Hz** for fast and real-time scanning. The **LZR®-VISIOSCAN NAV** outputs highly accurate and stable measurement data, independent of environmental lighting, object colour, or background interferences, making it **ideal for SLAM navigation**.

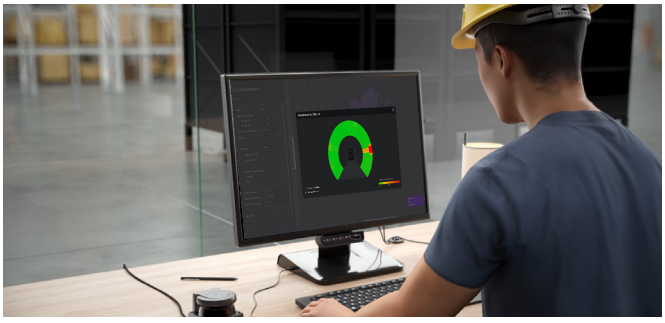
Robust build, maximizing performance

Stable performance even in harsh industrial environments is ensured by the scanner's wide operating temperature range of **-30°C to +60°C**, ingress protection enclosure of **IP67**, and vibration and shock resistance reaching class **5M2**.



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 warning indications makes **preventative maintenance** possible.

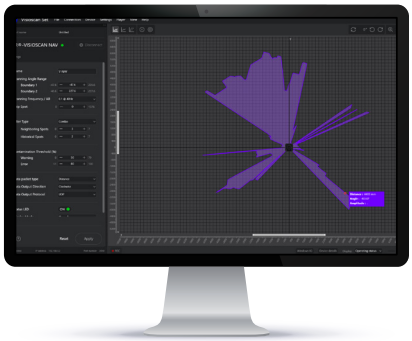


Smart and intuitive commissioning

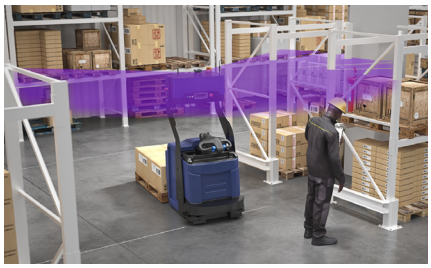
The Visioscan Set software makes commissioning, configuration, and troubleshooting easy and convenient. With the **BEA ROS Driver**, and **SDK**, this scanner can be easily integrated into any Automatic Forklift & AMR.

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

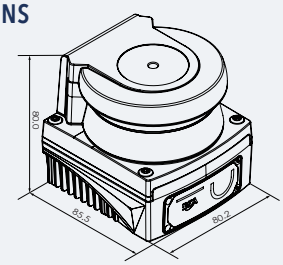


Navigation of Automatic Forklifts

Navigation of AMRs

Collision Avoidance of Stacker Cranes

DIMENSIONS



All dimensions are in mm. (All dimensions to be held to ± 0.3mm)

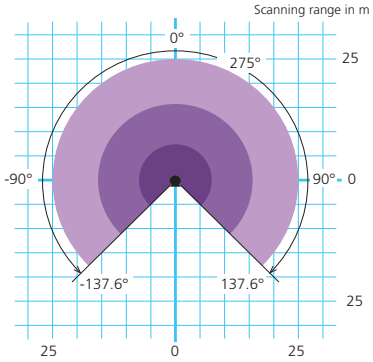
ACCESSORIES

POWER CABLE

ETHERNET CABLE

MOUNTING BRACKET

TECHNICAL SPECIFICATIONS



- 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;
Curtain	1
Scanning angle	275°
Angular resolution	0.2° @ 80 Hz, 0.1° @ 40 Hz, 0.05° @ 20 Hz, 0.025° @ 10 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 (1σ)	≤ 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 ambent 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	IEC/EN 60825-1; IEC/EN 61000-6-2; IEC/EN 61000-6-4; IEC/EN 60068-2-6; IEC/EN 60068-2-27; IEC/EN 60721-3-5; IEC/EN 60529

*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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