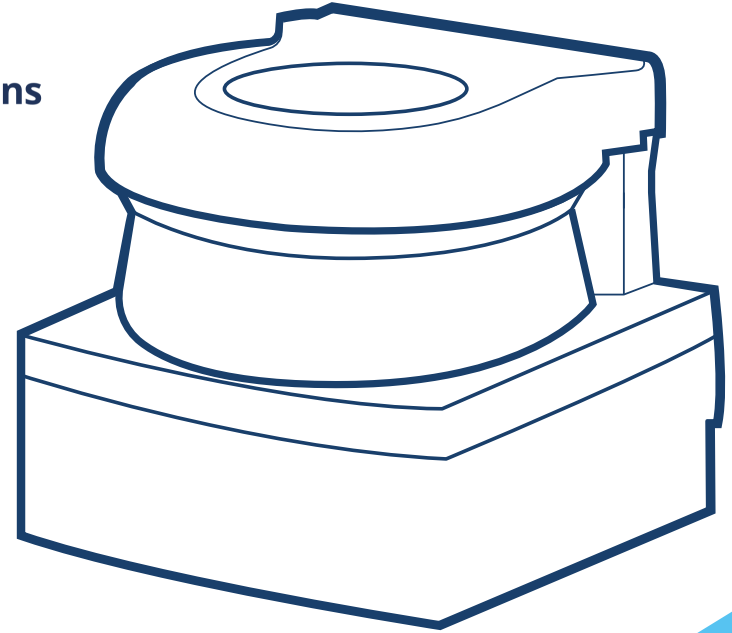
LZR®

VISIOSCAN NAV

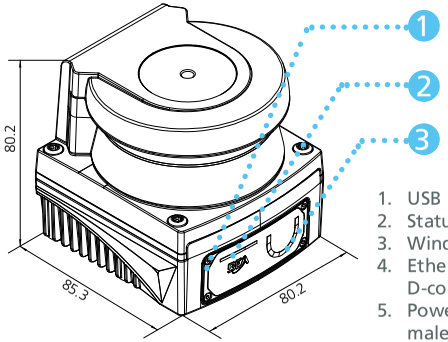
Factory & Logistic Automation Solutions

Quick guide

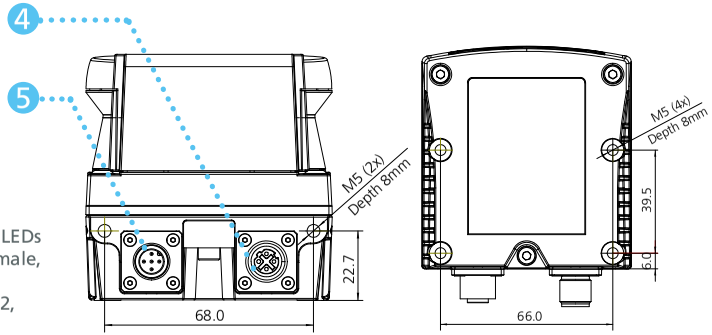


① Intended use

The LZR®-VISIOSCAN NAV is a laser scanner that scans a single curtain over a scanning angle of 275°. The scanner outputs accurate measurement data at a high scanning frequency through Ethernet communication, which can be processed to achieve various applications in factories and logistic automation solutions, such as navigation for automatic forklifts and obstacle avoidance for AMRs.



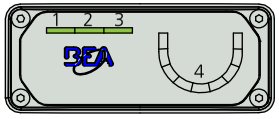
1. USB port front cover
2. Status LEDs
3. Window Contamination LEDs
4. Ethernet, 4-pin, M12, female, D-coded
5. Power/output, 5-pin, M12, male, A-coded



② Safety

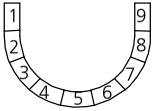
- The sensor cannot be used for purposes other than its intended use.
- The manufacturer of the system incorporating the sensor is responsible for compliance of the system to applicable national and international regulations and safety standards.
- The installer must read, understand and follow the instructions given in the manual linked on the last page of this document.
- The manufacturer of the sensor cannot be held responsible for injury or damage resulting from incorrect use, installation or inappropriate adjustment of the sensor.
- Caution – use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- For cleaning the optical window, please use only Isopropanol cleaners (>99%)with a soft cloth. The Isopropanol cleaner can only be used on the optical window.

3 LED Indication



1. Power Status
2. Ethernet Connectivity
3. Error Status
4. Window Contamination Status

LED 1		LED 2		LED 3	
	Power off. No supply voltage.		No ethernet connection.		Power off. No supply voltage.
*	Power on.	*	Ethernet connection established, no measurement data transfer.	*	Normal operation, no error.
	External power supply error.	* x 3	Ethernet measurement data transmission (default off).		Internal error.
* Indication can be turned off.					Fatal error.



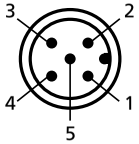
The U-shaped LEDs indicate the contamination status of the optical window divided into 9 segments.

1	105° ~ 137.5°	4	15° ~ 45°	7	-75° ~ -45°
2	75° ~ 105°	5	-15° ~ 15°	8	-105° ~ -75°
3	45° ~ 75°	6	-45° ~ -15°	9	-137.5° ~ -105°

LED flashing orange at 0.5Hz: Contamination warning reaching threshold 1.
LED light up permanently red: Contamination warning reaching threshold 2.

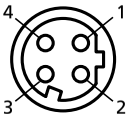
4 PIN Assignment

Power/output: A-coded



1	VIN+	Brown
2	OUT1(Warning)	White
3	GND	Blue
4	OUT2(Error)	Black
5	Not Connected	

Ethernet: D-coded



1	TX+
2	RX+
3	TX–
4	RX–

Ethernet Connection
Default IP address: 192.168.1.2
Port: 3050

5 Technical Specifications

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, 0.05° @ 20Hz, 0.025° @ 10Hz
Supply voltage	12 – 24 V DC, - 10% / + 30% (External electrical sources must ensure double insulation from primary voltages. For UL compliance, the device shall be supplied exclusively by class 2 power supplies.)
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 ambient light; 3,000 lux (IEC 61496-3)
Operating temperature	- 30 °C to + 60 °C
Height above sea level	< 2000 m
Enclosure	IP67 (IEC/EN 60529)
Ethernet	TCP / UDP
USB	USB 2.0, Type-C

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

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

User guide

YouTube

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