



NAV310-3211

NAV3xx

2D LIDAR SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
NAV310-3211	1060834

Other models and accessories → www.sick.com/NAV3xx

Detailed technical data

Features

Application	Indoor
Light source	905 nm
Laser class	1 (IEC 60825-1:2014, EN 60825-1:2014+A11:2021)
Aperture angle	
	Horizontal 360°
Scanning frequency	5 Hz ... 20 Hz
Angular resolution	
	Horizontal 0.125°
	0.25°
	0.5°
	0.75°
	1.875°
	0.375°
	1°
	0.0625°, interlaced
Working range	0.5 m ... 250 m
Scanning range	
	At 10% remission factor 35 m
	At 90% remission factor 120 m

Mechanics/electronics

Connection type	3 x M12 male connector/female connector
Supply voltage	24 V DC, ± 15 %
Power consumption	36 W
Housing material	Aluminum die cast
Housing color	Light blue (RAL 5012)
Enclosure rating	IP65

Protection class	III
Weight	2.4 kg
Dimensions (L x W x H)	115 mm x 120.5 mm x 222 mm
MTBF	86 years

Safety-related parameters

MTTF_D	> 100 years
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Performance

Detectable object shape	Almost any
Systematic error	± 10 mm ¹⁾
Statistical error	15 mm ¹⁾

¹⁾ Actual value depends on environmental conditions.

Interfaces

Ethernet	✓, TCP/IP
Data transmission rate	100 Mbit/s
Serial	✓, RS-232
Data transmission rate	19.2 kBaud ... 115 kBaud
Digital inputs/outputs	
Outputs	1 (digital)
Optical indicators	4 LEDs (status displays)

Ambient data

Ambient operating temperature	0 °C ... +50 °C
Storage temperature	-20 °C ... +80 °C
Permissible relative humidity	85 %, Non-condensing

General notes

Note on use	The sensor does not constitute a safety component as defined by relevant legislation on machine safety.
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Certificates

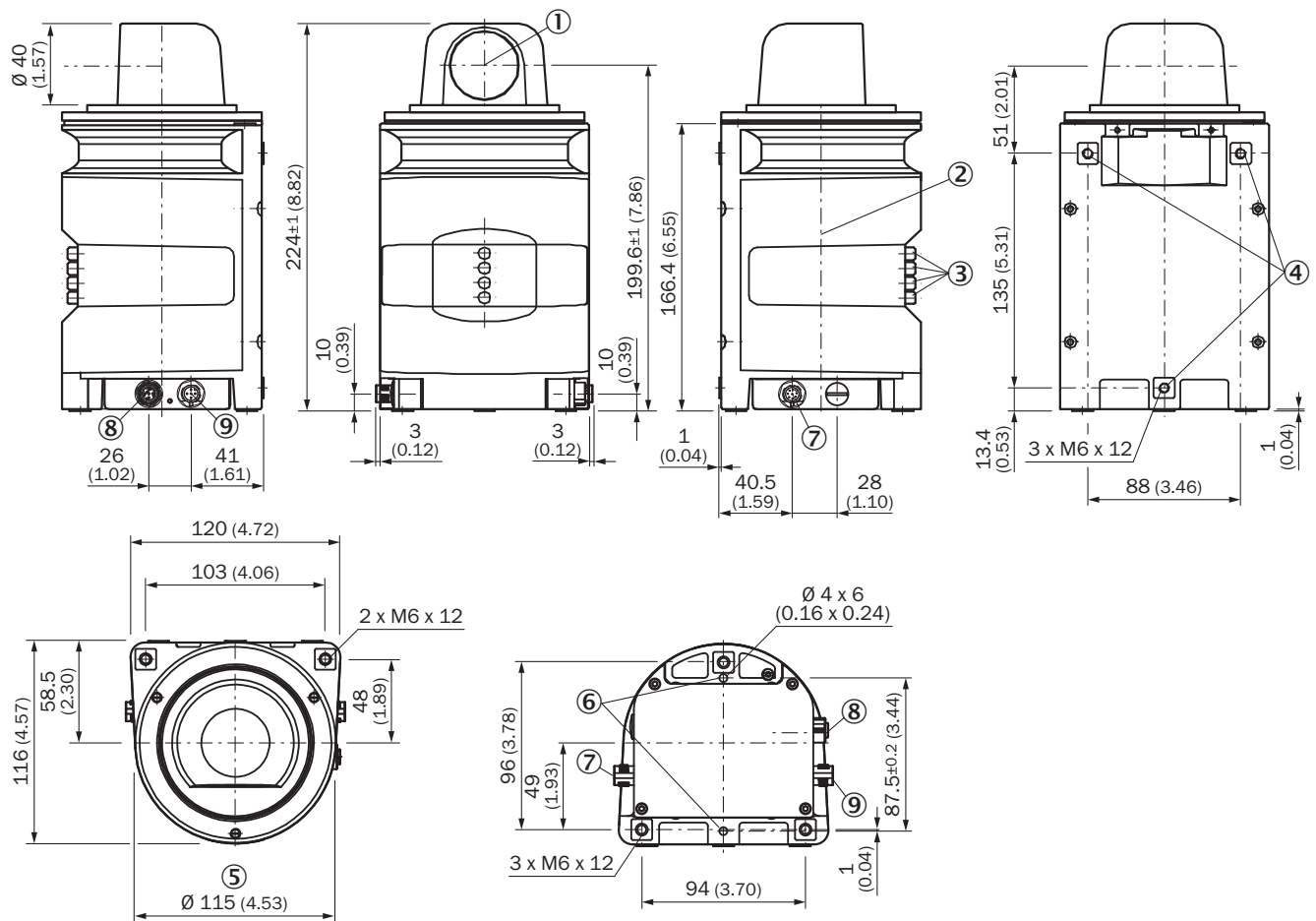
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27270990
ECLASS 5.1.4	27270990
ECLASS 6.0	27270913
ECLASS 6.2	27270913
ECLASS 7.0	27270913

ECLASS 8.0	27270913
ECLASS 8.1	27270913
ECLASS 9.0	27270913
ECLASS 10.0	27270913
ECLASS 11.0	27270913
ECLASS 12.0	27270913
ETIM 5.0	EC002550
ETIM 6.0	EC002550
ETIM 7.0	EC002550
ETIM 8.0	EC002550
UNSPSC 16.0901	41111615

Dimensional drawing

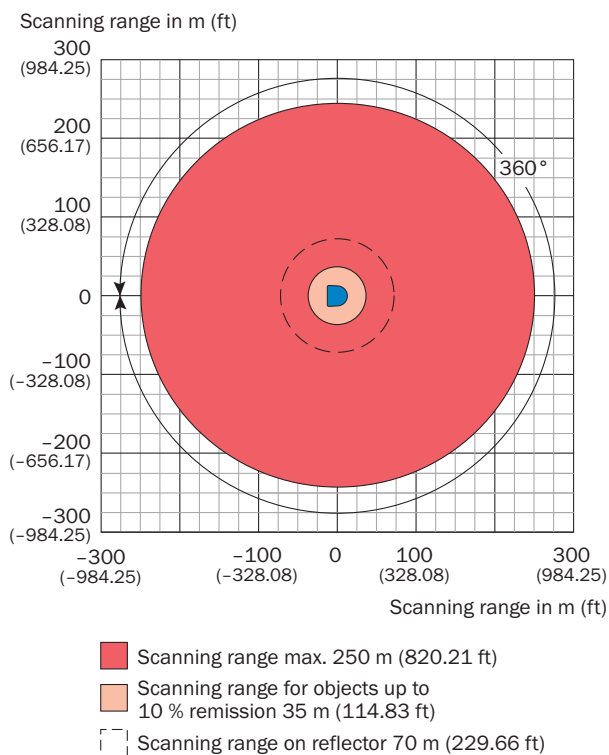


Dimensions in mm (inch)

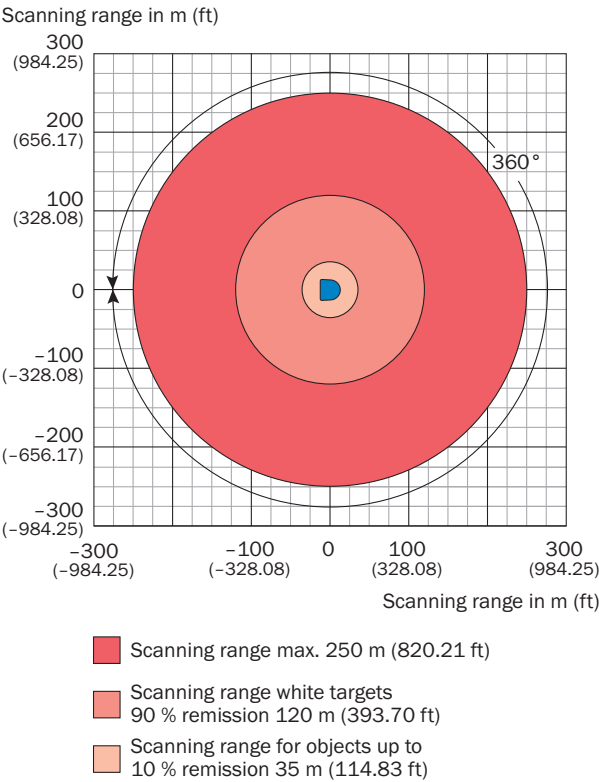
- ① Optical axis
- ② Zero level
- ③ LED (from top: yellow, yellow, green, red)
- ④ Mounting hole M6 x 12
- ⑤ Rotating diameter
- ⑥ Aligning pin

- ⑦ RS-232 connection (M12 x 8, male connector)
- ⑧ Ethernet connection (M12 x 4, female connector)
- ⑨ power supply connection (M12 x 5, male connector)

Working range diagram




Working range diagram



Recommended accessories

Other models and accessories → www.sick.com/NAV3xx

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none">Description: Reflective tape "Diamond Grade", self-adhesive, sheetDimensions: 749 mm 914 mmAmbient operating temperature: -34 °C ... +70 °C	REF-DG	5320565

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Connection systems: Flying leads Application: Zones with oils and lubricants, Drag chain operation 	DOL-1205-G05MAC25	6043440
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants 	YM2D24-050P-N1MRJA4	2106184
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-050UA6XLEAX	2095835
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-C60UA6XLEAX	2145470
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-010UA6XLEAX	2145471
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-020UA6XLEAX	2145472
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-030UA6XLEAX	2145473

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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