Benewake NOVA 20

TOF Module Product Specification



NOVA 20 is a compact multi-point LiDAR independently developed by Benewake for robot obstacle avoidance and fall prevention, platform screen door foreign object detection, and space presence detection. It offers high accuracy and strong ambient-light resistance for diverse application environments.

Technical Specifications

Performance Parameters	
Measurement Range	1 m @ 10% reflectivity, 100 klux
Blind Zone	≤ 0.1 m
Accuracy	3 cm @ 0.1-0.3 m; 5 cm @ 0.3-0.5 m
Precision	≤ 3 cm (1σ)
Frame Rate	10 Hz
Number of Channels	20 channels
FOV [1]	≤ 40° (±20°, evenly distributed)
Optical Performance	
Light Source	VCSEL
Central Wavelength	905 nm
Laser Safety Class	Class 1 Eye-safe [EN60825]
Mechanical and Electrical Parameters	
Avg. Power Consumption[4]	< 1 W
Startup Peak Current	< 850 mA
Supply Voltage	DC 5 V ±5%
Operating Temperature	-20°C ~ +55°C
Storage Temperature	-40°C ~ +85 °C

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Dimensions (D×W×H)	Typical dimension 25 mm×21 mm×14mm
Weight	<3g
Hardware Interface	1.25 mm-5Pin
Protection Rating	/
Communication Interface Parameters	
Communication Interface	UART
Baud Rate	Default 921600 bps
Data Information	Distance, signal strength, channel number, temperature
Software Runtime Environment	Supports Linux (Ubuntu), ROS, and Windows platform

Serial Port Output Format

Byte:

Byte	0	1	2	3	4	5	6	7	8
Description	0x59	0x59	Dist_L	Dist_H	Peak_L	Peak_H	Temp	Zone index	Checksum

Definitions:

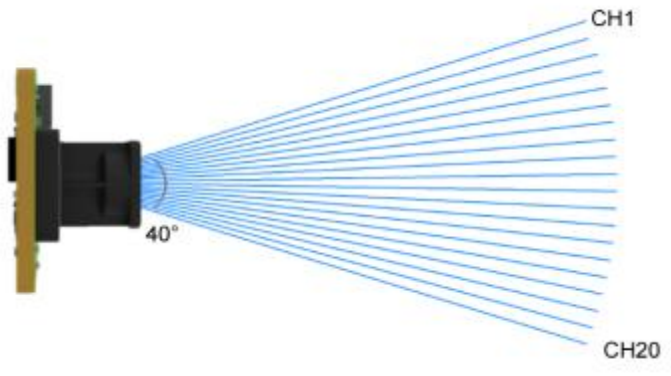
Dist: Distance (unit: mm)

Peak: Signal strength

Temp: Built-in chip temperature

Zone index: Channel number

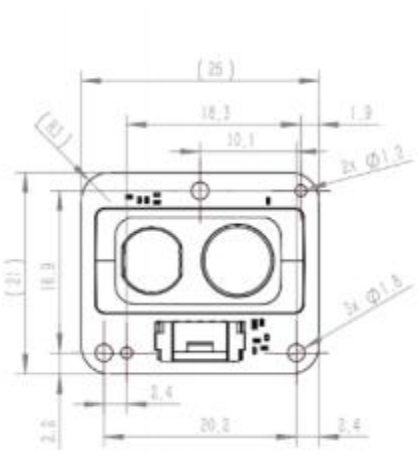
FOV Distribution



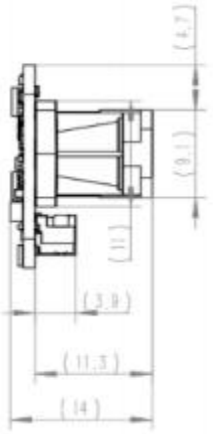
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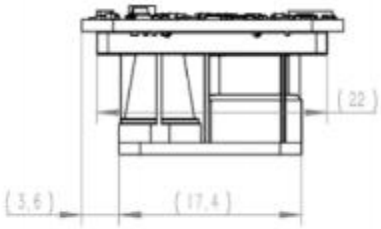
2D drawing



Front view



Side view



Top view

Unit： mm

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