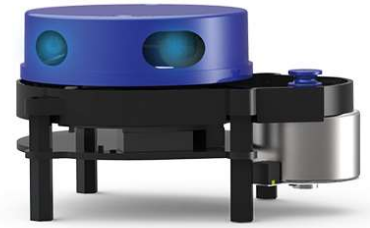


## OVERVIEW

N4 is a 360 degrees 2D LiDAR. Based on the principle of triangulation, it is equipped with related optics, electricity, and algorithm design to achieve high-frequency and high-precision distance measurement. The mechanical structure rotates 360 degrees to continuously output the angle information as well as the point cloud data of the scanning environment while ranging.



## TECHNICAL SPECIFICATIONS

### PRODUCT PARAMETER

Item	Min	Typical	Max	Unit	Remarks
Ranging frequency	/	5000	/	Hz	Ranging 5000 times per second
Motor frequency	6	/	12	Hz	PWM or voltage speed regulation
Ranging distance	0.12	/	10	m	Indoor environment with 80% Reflectivity
Field of view	/	0-360	/	Deg	/
Systematic error	/	2	/	cm	Range ≤ 1m
Relative error	/	3.5%	/	/	1m < Range ≤ 6m
Tilt angle	0.25	1	1.75	Deg	/
Angle resolution	0.43 (frequency@6 Hz)	0.50 (frequency@7 Hz)	0.86 (frequency@12Hz)	Deg	Different motor frequency

### ELECTRICAL PARAMETER

Item	Min	Typical	Max	Unit	Remarks
Supply voltage	4.8	5	5.2	V	Excessive voltage might damage the Lidar while low affect normal performance
Supply current	1000	/	/	mA	Instantaneous peak current at start-up
Working current	/	350	500	mA	System work, motor rotation speed=7Hz

## INTERFACE DEFINITION

Pin	Type	Description	Defaults	Range	Remarks
VCC	Power supply	Positive	5V	4.8V-5.2V	/
Tx	Output	System serial port output	/	/	Data stream: LiDAR→Peripherals
Rx	Input	System serial port input	/	/	Data stream: Peripherals→LiDAR
GND	Power supply	Negative	0V	0V	/
M_EN	Input	Motor enables control terminal	3.3V	0V-3.3V	High level enables
DEV_EN	Input	Ranging enable control terminal	3.3V	0V-3.3V	High level enables
M_SCTR	Input	Motor speed control terminal	1.8V	0V-3.3V	Voltage speed regulation or PWM speed regulation
NC	/	Reserve pin	/	/	/


## SERIAL PORT SPECIFICATION

Item	Min	Typical	Max	Unit	Remarks
Baud rate	/	128000	/	bps	8-bit data bit, 1 stop bit, no parity
High signal level	2.4	3.3	3.5	V	/
Low signal level	0	0	0.6	V	/

## MOTOR PWM SIGNAL SPECIFICATION

Item	Min	Typical	Max	Unit	Remarks
PWM frequency	/	10	/	KHz	PWM is a square wave signal
Duty cycle range	50%	85%	100%	/	The larger the duty cycle, the faster the speed

## LASER OPTICAL PARAMETERS

Item	Min	Typical	Max	Unit	Remarks
Laser wavelength	775	793	800	nm	Infrared band
FDA	 Class I				

## OTHERS

Item	Min	Typical	Max	Unit	Remarks
Operating temperature	0	20	40	°C	No condensation
Storage temperature	-10	/	60	°C	With package
Lighting environment	0	550	2000	Lux	For reference only
weight	/	180	/	g	N.W.