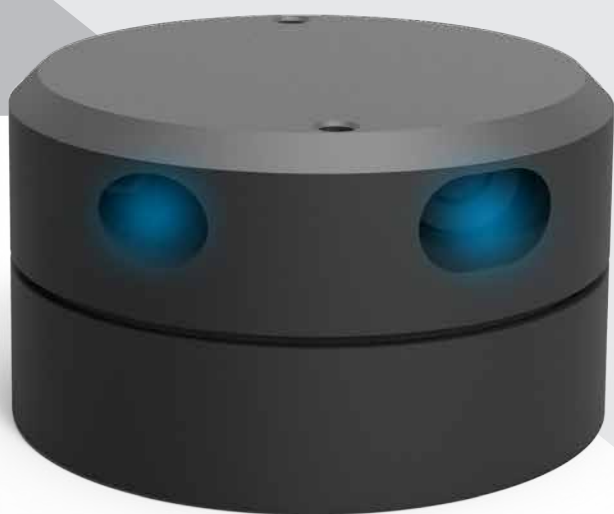


YDLIDAR G4 -Datasheet



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Product Description

YDLIDAR G4 lidar is a 360 degree two-dimensional range finder developed by YDlidar. (G4), based on the principle of triangulation distance measurement .

FEATURES:

- Sacan Range: 0.1m--16m
- Sampling Rate: 9000hz
- Brushless Motor, Stable performance
- Class I Laser Safety
- 5-12Hz Configurable ranging frequency
- Optomagnetic Technology

APPLICATIONS:

- Robot navigation and obstacle avoidance
- Robot ROS teaching & research
- Environmental Scanning
- 3D Reconstuction
- Navigation and obstacle avoidance for home service robot
- Sweeping Robot

Parameter

Chart 1

Subject	Min.	Typical value	Max.	Unit	Remark
Sampling Rate	4000	9000	9000	Hz	9000 ranging times/sec
Range Frequency	5	7	12	Hz	Configurable
Scan Range	0.10	-	16	m	Range Frequency=4KHz
	0.22	-	16	m	Range Frequency=8KHz
	0.26	-	16	m	Range Frequency=9KHz
Scan Angle	-	0~360	-	Deg	-
Range Resolution	-	<0.5	mm		Range<2m
		-			Range>2m
Angle Resolution	0.26	0.28	0.30	Deg	Frequency at 7Hz

Electrical parameter

Chart 2

Subject	Min.	Typical value	Max.	Unit	Remark
Supply Voltage	4.8	5.0	5.2	V	Too high can damage the equipment, too low may affect performance and even impossible to range
Ripple Voltage	0	50	100	mV	Too High R.P. affects performance and may stop ranging
Starting current	450	500	550	mA	Higher current is required to start scanning
Sleep current	-	<50	-	mA	Motor Sleeps
Working current	400	450	480	mA	Motor rotates

Interface definition

USB Type-C and PH2.0-5PBase interface

USB Type-C：Data communication and system power supply

PH2.0-5P：Data communication and system power supply

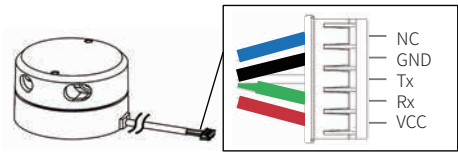


Chart 3 YDLIDAR G4 interface

Pin	Type	Des.	Default	Range	Remark
VCC	Power Supply	Supply Vol. +	5V	4.8V~5.2V	-
Tx	Input	System serial port input	-	-	Data flow : peripheral to radar
Rx	Output	System serial port output	-	-	Data flow : radar to peripheral
GND	Power Supply	Supply Vol. -	0V	0V	-
NC	Back up	Back up pin	-	-	-

Data Communication

Subject	Min.	Typical value	Max.	Unit	Remark
Baud Rate	-	230400	-	bps	8 bit data bit ,1 bit stop bit, no check
Signal high level	1.8	3.3	3.4	V	When the signal voltage is >1.8V, it is high level
Signal low level	0	0	0.5	V	When the signal voltage is <0.5V, it is low level

Chart 4 Serial port specification of YDLIDAR G4

Optical Parameter

Subject	Min.	Typical value	Max	Unit	Remark
Laser Wave length	775	785	795	nm	Infrared Band
Laser Power	-	3	5	mW	Peak Power
FDA	 Class I				

Chart 5

Definition of polar coordinate system

In order to facilitate the secondary development , the polar coordinate system is defined inside G4 . The polar coordinates of the system are the poles at the center of the rotating core of G4 , the specified angle is clockwise , and the zero position angle is located in the direction of the outlet opening of the G4 PH2 . 0 - P interface line , as shown in the below

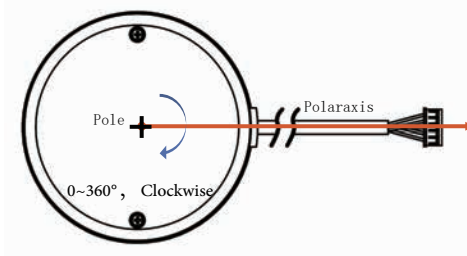


Chart 6

Others

Subject	Min.	Typical Value	Max.	Unit	Remark
Working Temp.	0	20	40	°C	Working in a high temperature environment for a long time will reduce the life span.
Light Environment	0	550	2000	Lux	For reference only
Weight	-	214	-	g	Netweight

Chart 7

Support

G4 provides various hardware and software interfaces, it can achieve the system of motor power control, speed control, ranging unit enable control and output control. Also, G4 support provides a Windows graphical debug client for users, the SDK development kit and Ros development kit.

Users can download related files from the official website <http://eaibot.com/>.

