High FPS Depth Camera 3D TOF

IDC8060

IDC8060 is a low resolution and high frame rate depth sensor module developed by Shenzhen LDROBOT. It contains sensor IC, lens and laser. This module can measure the target distance and convert to the deep point cloud data which can be read by user via USB port.

This high cost performance 3D depth detection sensor has been bulky applied to many well-known brand service robot. With high obstacle avoidance performance, it can instantly perceive dynamic obstacles and avoid obstacles in time.

It can be applied to: robot precise positioning and mapping, navigation and obstacle avoidance, face/body/object recognition, AR/R etc.

Features

- Resolution: 80*60
- Measurable distance: 0.4-2m
- Aperture angle: 92°*74.1°*57.5°
- Frame rate: < 33Fps
- FDA: Class I
- Anti-interference

Application Field

- Robot positioning
- Built figure
- AR/VR
- Face recognition
- 3D scanning
- Foot count

IDC8060

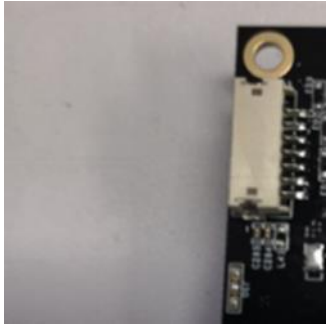# Contents

1. Introduction to Principle and System

The module uses the principle of TOF phase method. The module contains the light source part and the receiving part. The modulated infrared laser is emitted by the light source to the measured object, reflected on the measured object, and then received by the receiving unit. Thus, the distance of the measured object can be converted through the phase difference between the emitted light and the reflected light and the modulation frequency of the light source.
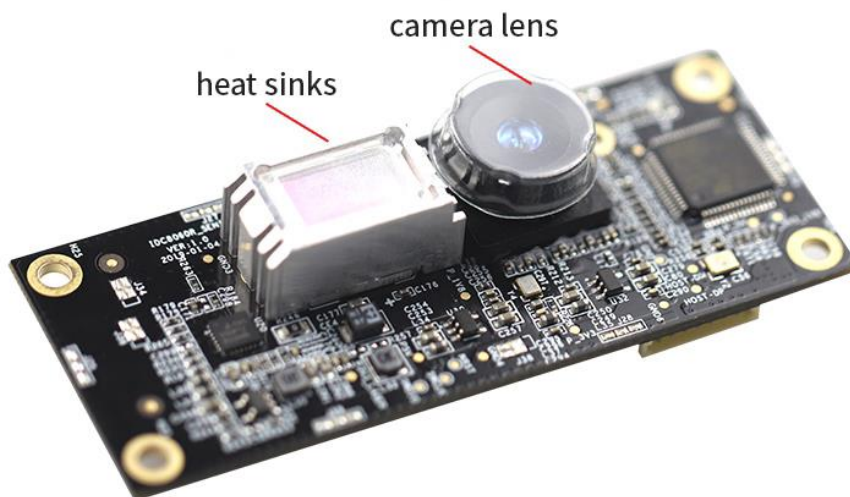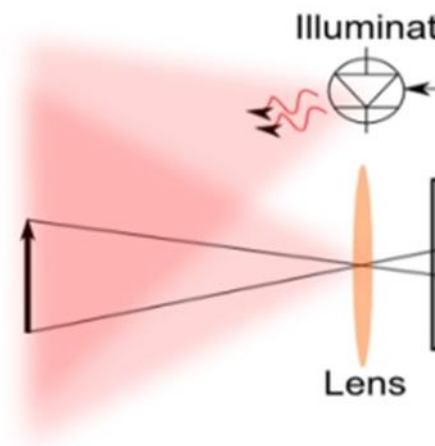
2. Specifications

Parameters	Unit	Range	Remarks
Size	mm	80.4*33*15.5	
Input Voltage	V	5.0±0.25	
Power	W	1.95±0.5	
Resolution		80*60	
Aperture Angle	(°)	92*74.1*57.5	D*H*V
Light Source		VCSEL+Diffuse	
Range	m	0.4-2	The target for 0.4m black reflector 2m white reflector
Accuracy	%	5	
Frame Rate	Fps	< 33.3333	

3. Interface

Interface	Pin	Signal	
J23	1、2	VCC	
	3	USB DM	
	4	USB DP	
	5	PGND	
	6、7	GND	

4. Working Environment

Parameters	Unit	Range	Remarks
Humidity	(%)	0-80	
Temperature	(°C)	-5~45	Make sure the IC surface temperature is below 70℃.

5. Packing and Storage Requirements

Parameters	Describe	Remarks
Packing	Electrostatic bag	
The packing case provided by LDROBOT is resistant to falling	<80 cm	
Storage ambient temperature range	-10~60℃	
Whether bare machine is crash resistant	Belongs to the precision optical instrument, cannot drop	

6. Customized Requirements

Its software, hardware parameters and structure can be customized according to customer's demand. If you have any requirement, please contact LDROBOT.