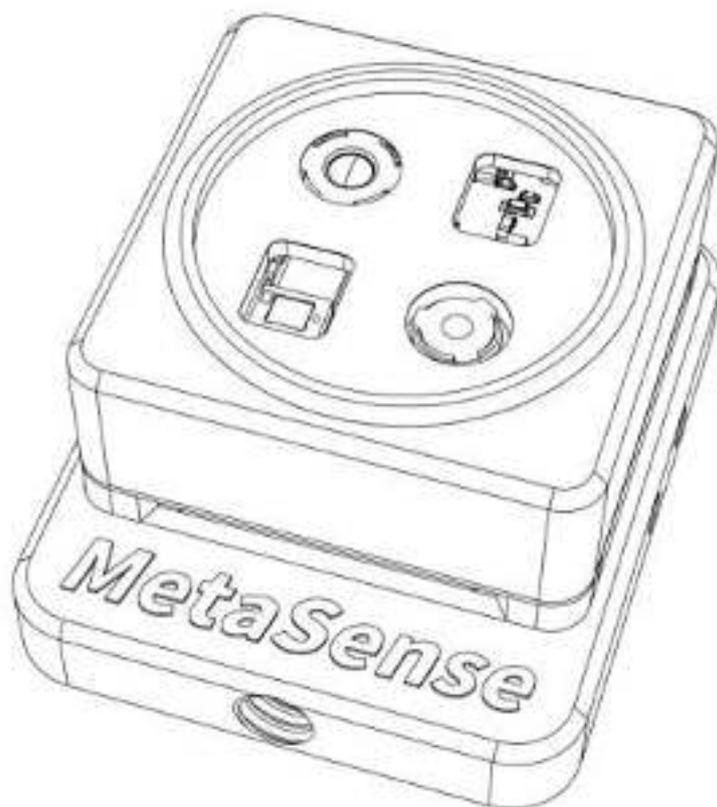


SIPEED

MaixSense A075V

DataSheet



Revision History

<i>Date</i>	<i>Revision</i>	<i>Description</i>
2022-08-05	1.0	Initial Release

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Contents

Revision History 2

Warranty Disclaimer 3

Contents 4

Overview 5

1 Key Specifications..... 6

2 Technical Specifications 7

3 Dimensions and interfaces 8

 3.1 Camera size and structure 8

 3.2 Physical picture of camera..... 9

 3.3 Pin description 10

4 Product related Executive Standards..... 11

5 Operating precautions..... 12

Overview

MaixSense A075V is a depth camera with capabilities of depth measurement and RGB image capture. Its camera system consists of the illuminator (a 940nm VCSEL and a Driver IC), ToF sensor, RGB sensor, and processor. MaixSense A075V is power supplied via USB2.0, and it outputs ToF depth data and RGB image at a speed of 30fps. With its sophisticated optic, electronic and high accuracy algorithms, MaixSense A075V is able to calculate depth data as accurate as in millimeter level.

Features

- Combination of ToF and RGB sensors
- Depth range 0.15 – 1.5 meters
- Millimeter level accuracy
- Outdoor compatibility
- Power supply and data transfer via USB2.0
- Low and customizable power consumption

Applications

- SLAM and robotic navigation
- Surveillance & security inspection
- People counting & tailgate detection
- VR/AR & gesture recognition
- Autopilot and AGV obstacle avoidance
- 3D modelling
- Dimensions measurement
- Liveness Detection & facial recognition

1 Key Specifications

Parameter	Description
CPU	Single-core ARM Cortex™-A7 Processor, Up to 1.5GHz
Memory	128MB RAM & 128MB ROM
Video Encoder	H.264, up to 5M@20fps H.265, up to 5M@30fps JPEG, up to 1080p@ 60fps
NPU	0.4 TOPS
Camera Size	36.00*36.00*13.50 mm (Excluding Heat Dissipation Module)
Connector	USB Type-C, 1.25mm Connector
External interface	USB2.0, UART
RGB Camera Resolution	1600*1200 Max
RGB Camera Frame rate	10 - 30 fps
RGB Camera FOV	120°
TOF Camera Resolution	320*240 Max
TOF Camera Frame rate	10 - 60 fps
TOF Camera FOV	55°(H) * 72°(V)
TOF Measurement range	0.15 – 1.5 m
TOF Distortion	< 2.5%
TOF Illumination	940nm, 3W
TOF Measurement Accuracy	<=1% / <=1cm

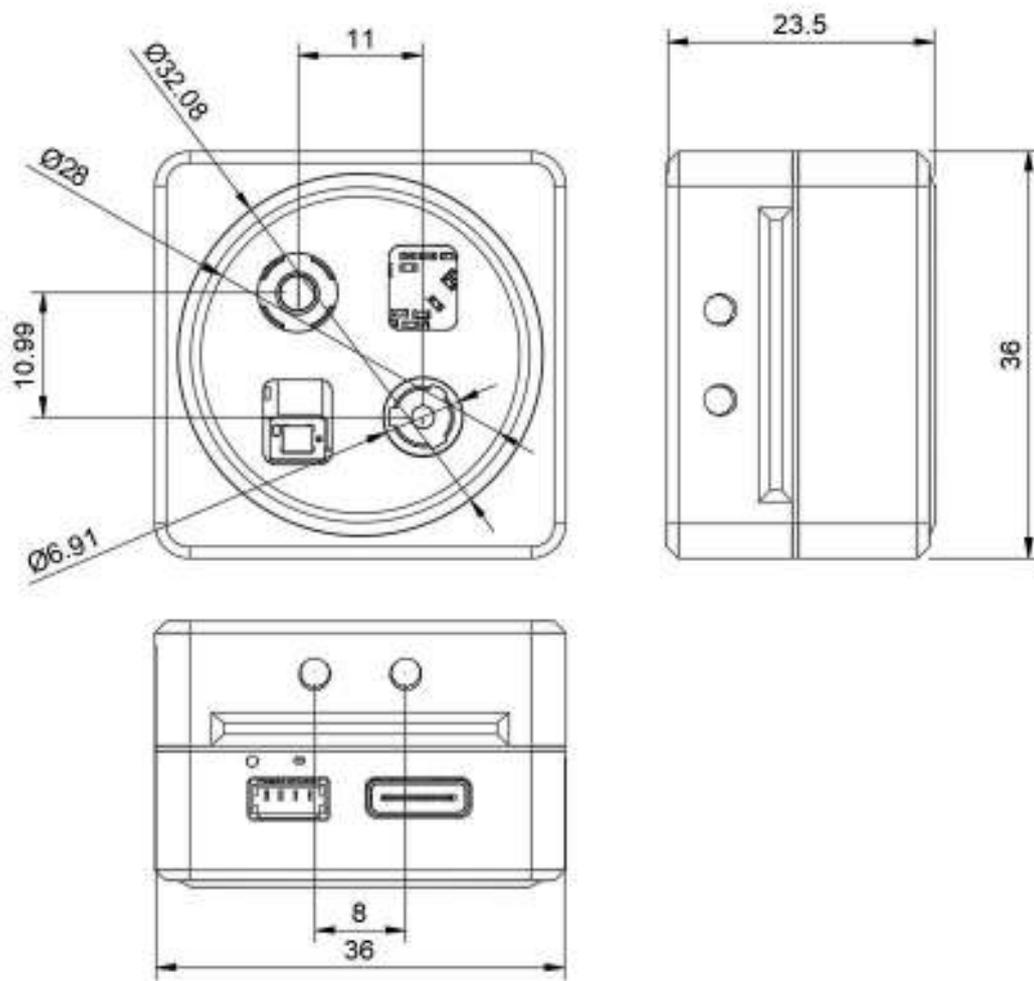
2 Technical Specifications

(Scenario: TA = 25°C, object reflectivity 90% if not otherwise specified)

Parameter	Description	Min	Typ	Max	Unit
Camera Supply Voltage		4.8	5	5.2	V
Supply Electric Current		1			A
Operating Electric Current				1	A
Wave Length			940		nm
Measurement Range		0.15		1.5	m
Operating Temperature		-20		50	°C

3 Dimensions and interfaces

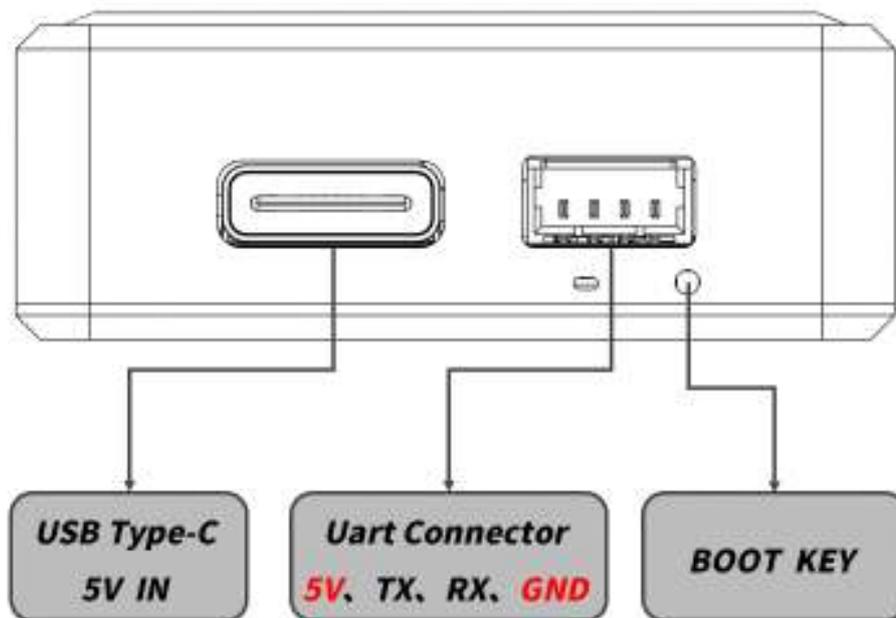
3.1 Camera size and structure



3.2 Physical picture of camera



3.3 Pin description



4 Product related Executive Standards

Meet human eye safety standards class1 (IEC 60825 1:2014- 3rd edition)。



5 Operating precautions

During the use of this product, attention must be paid to operation safety and maintenance, otherwise it may cause damage to the product, shorten its service life, and even endanger personal safety. For safe use and maintenance, attention should be paid to the following aspects:

- This product is a high-precision electronic product. Please do not collide or fall.
- Although the Class1 laser used in this product meets the safety standards for human eyes, it is not recommended to look directly at the laser for a long time to avoid discomfort.
- Do not place this product in a place with high temperature or direct sunlight.
- Do not disassemble or modify this product without permission to prevent damage to the components of the product.
- Do not touch the camera of this product to avoid leaving fingerprints and other pollutants affecting the image effect.
- Please keep this product out of the reach of children to prevent accidents.
- Please follow the manual for correct and safe operation.