



DS77 series

Features Sony DepthSense TOF sensor

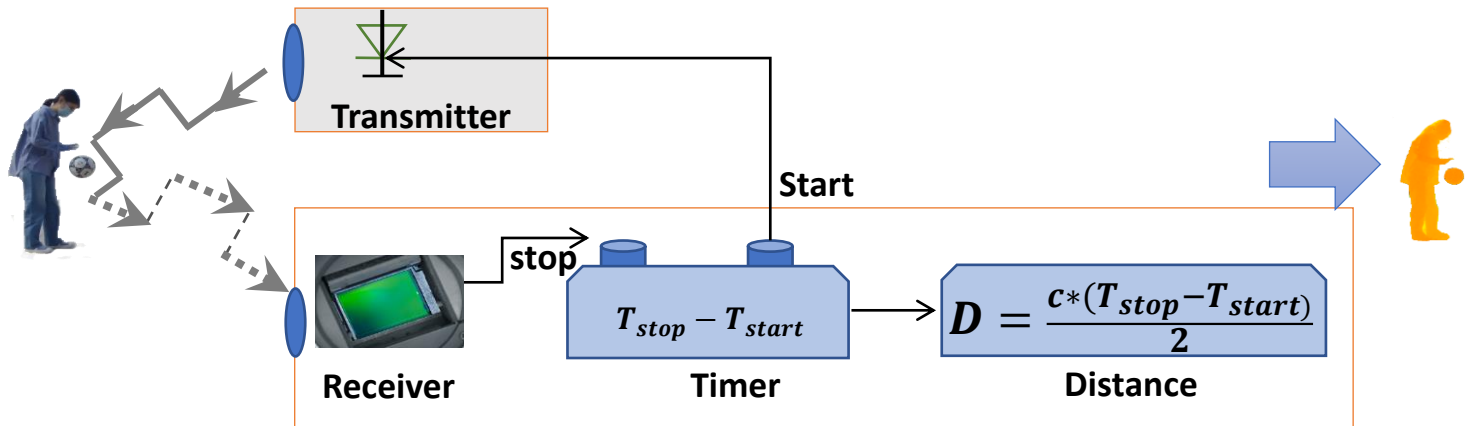
Class 1 Laser Product



机器视觉产业联盟
China Machine Vision Industry Union



3D Time-of-Flight Principle



A 3D time-of-flight sensor emits modulated infrared light outside the visible range. It is reflected by objects in its field of vision and then captured by the sensor. The time between the emission and reception of the reflected infrared light is called “time-of- flight” (ToF).

DS77 Series

SONY TOF Camera
Industrial Grade



EXW price:
DS77 Lite 599usd
DS77 Pro 699usd

Model	DS77 Lite	DS77 Pro
Part No.	608000200022	608000200023
ToF Sensor	SONY DepthSense ToF Sensor	
Emitted Light	940nm VCSEL*2	
ToF Resolution	640*480, Max.25fps	
ToF FOV	70°(H) * 50°(V)	
Output Format	Depth RAW12 + IR	
Interface	1000Mbps Ethernet and RS485	
Power Supply	12V~24V DC	12V~24V DC or PoE+
Accuracy	<1%	
Range	0.15m~5.0m	
Working Temp	-20℃ ~ 50℃	
OS & Platform	Windows/Linux/Arm Linux/ROS1/ROS2	
SDK support	C/C++/Python/C#	
Dimension	65mm*65mm*60mm	65mm*65mm*72.65mm
IP Protection	IP42	IP67
Illustration		

DS77C Series

SONY ToF + RGB Camera
Industrial Grade



EXW price:
DS77C Lite 749usd
DS77C Pro 849usd

Model	DS77C Lite		DS77C Pro	
Part No.	608000200024		608000200025	
ToF Sensor	SONY DepthSense ToF Sensor			
Emitted Light	940nm VCSEL*2			
ToF Resolution	640*480, Max.25fps			
RGB Resolution	1600*1200, Global Shutter			
ToF FOV	70°(H) * 50°(V)			
RGB FOV	77° (H) * 55° (V)			
Output Format	RGB + Depth RAW12 + IR			
Interface	1000Mbps Ethernet and RS485			
Power Supply	12V~24V DC		12V~24V DC or PoE+	
Accuracy	<1%			
Range	0.15m ~ 5.0m			
Working Temp	-20°C ~ 50°C			
OS & Platform	Windows/Linux/Arm Linux/ROS1/ROS2			
SDK support	C/C++/Python/C#			
Dimension	105mm*65mm*60mm		105mm*65mm*72.65mm	
IP Protection	IP42		IP67	
Illustration				



Depth/IR/Point Cloud Demonstration



Get more DS77 raw data here 

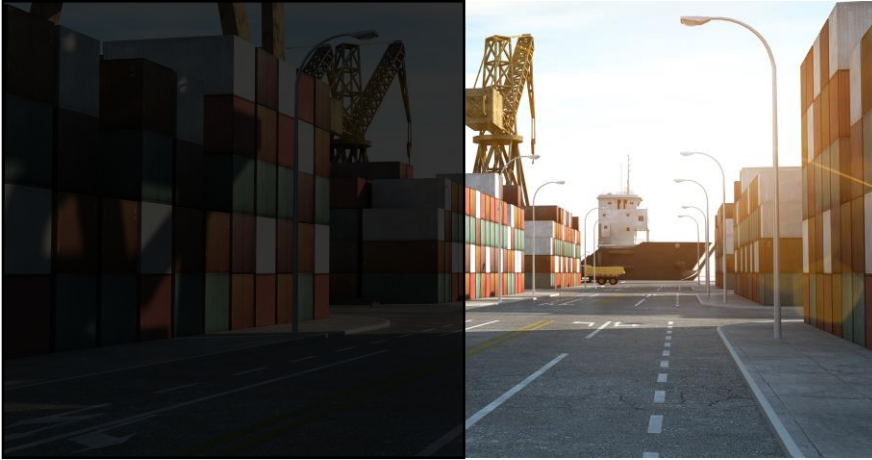
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Key Features

- High resolution and accuracy 3D data
- Works well under bright sunshine or in dark scenes
- 2MP RGB resolution, Global shutter (for DS77C series)
- Matched depth image and RGB image (for DS77C series)
- IP67 and aviation plugs option selectable
- Full SDK available

Video Demonstration

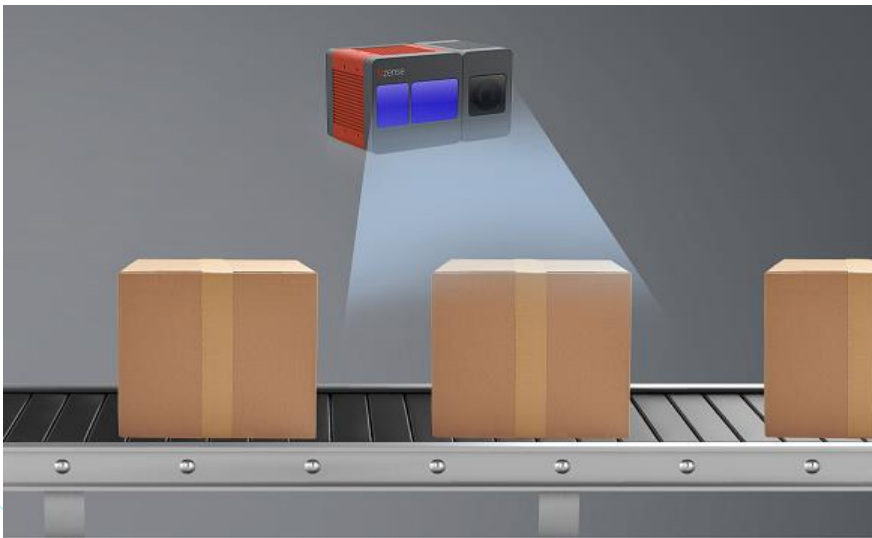
- Works well under bright sunshine or in dark scenes



Check the demonstration video 

<https://www.youtube.com/watch?v=SWUsVR0-I54&t=3s>

- High frame rate to capture data of moving objects



Check the demonstration video 

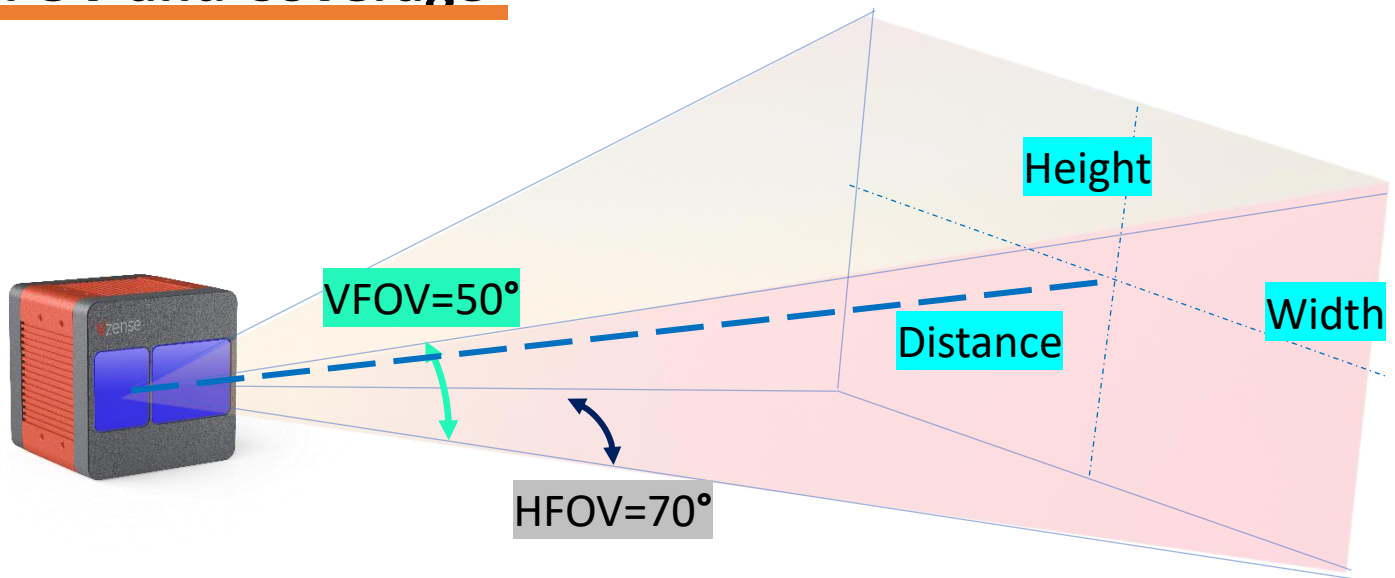
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<https://youtu.be/h1-raMAAbpw>

<https://youtube.com/shorts/pDNlbX0e2tM?feature=share>



FOV and Coverage



ToF FOV 70°(H)*50°(V)

$$Width = \tan\left(\frac{HFOV}{2}\right) * Distance * 2$$

$$Height = \tan\left(\frac{VFOV}{2}\right) * Distance * 2$$

Calculated detectable area from 1, 2, 3, 4meters away

Distance (meter)	Width (meter)	Height (meter)
1	1.4	0.93
2	2.8	1.86
3	4.2	2.8
4	5.6	3.73

What's included in the SDK:

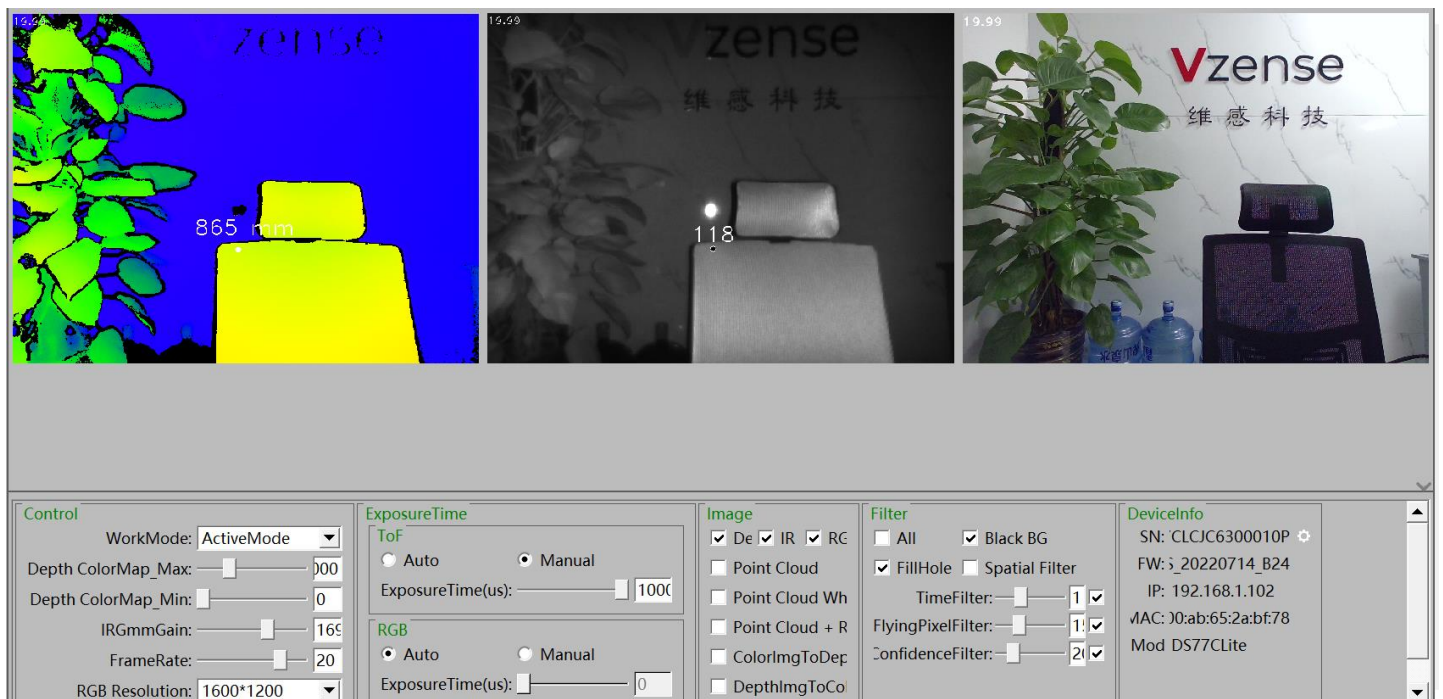
NebulaGUITool	With this application, users can quickly access DS77 series camera to view the stream of depth/IR, visualize point clouds, configure camera settings, upgrade firmware, etc. For models with RGB, users can also simultaneously access stream of RGB, IR, depth, mapped RGB and mapped depth.
Suite for OS and platforms	Different OS and platforms is supported like Windows, Ubuntu16/18/20, Arm Linux. The development suite includes dynamic libraries, C/C++ code samples, OPENCV samples, prebuilt bins.
Wrappers	Python API, as well as integration with the following 3rd-party technologies: ROS1 , ROS2 and more(C#, Halcon, GenICam) to come.
Code Samples	Code samples are included in every listed supported OS, platforms, and wrappers. These examples demonstrate how to easily use the SDK to include code snippets that access the camera into your applications. Check some of the C/C++ examples including point cloud capture and save, parameters setting and trigger mode setting, etc.

We constantly add new features to our SDK to expand the capabilities of your project. Click [NebulaSDK](#) to check detail or download.



A Glance of NebulaSDK

	AArch64	update ver 1.1.13
	Python	modify the VzDeviceInfo definition
	ROS/src/VzenseROS	modify README for ROS
	ROS2/src/VzenseROS	add ROS2
	Ubuntu16.04	update ver 1.1.13
	Ubuntu18.04	update ver 1.1.13
	Windows	fix error on windows x64
	LICENSE	fix error
	README.md	update ver 1.1.0



NebulaGUITool



- Sony ToF Sensor
- RGB + Depth
- Support PoE+

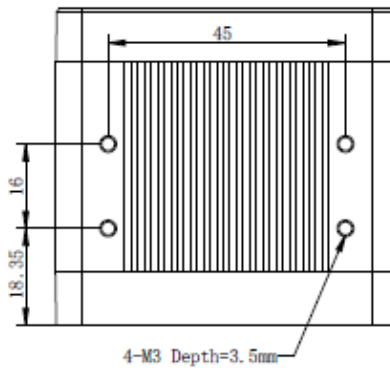
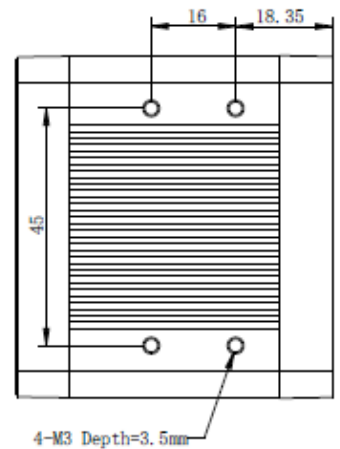
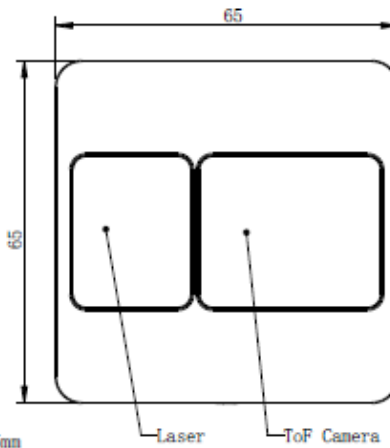
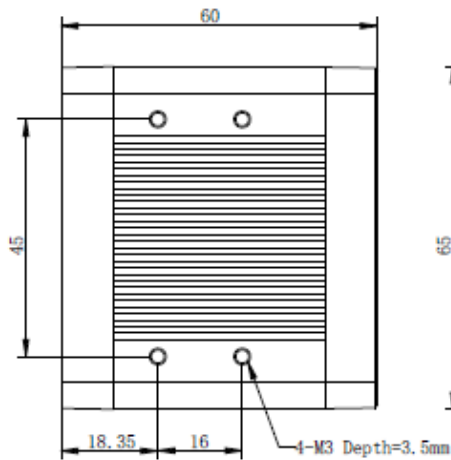
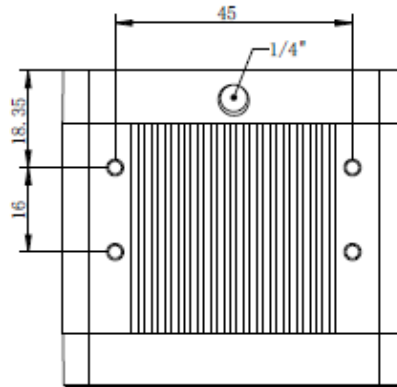
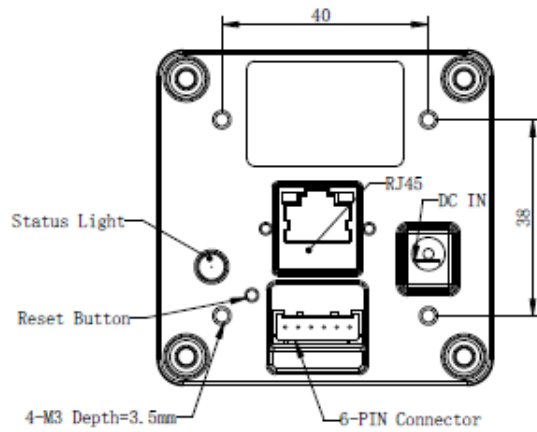


Focus on Industrial 3D Time-of-Flight Cameras

Letting Machines Perceive the 3D World

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www.vzense.com

DS77 Lite Dimension



- Sony ToF Sensor
- RGB + Depth
- Support PoE+

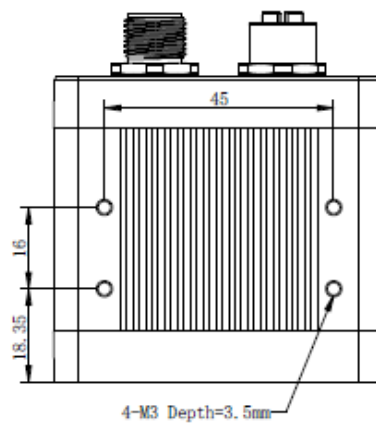
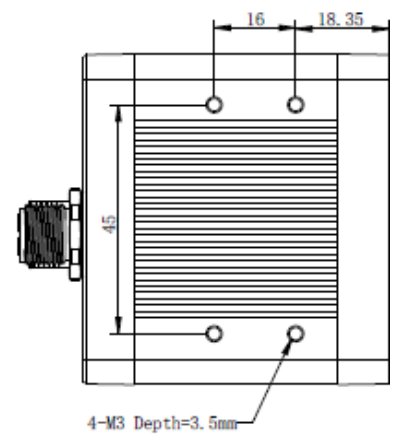
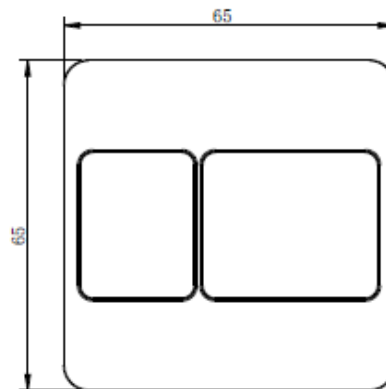
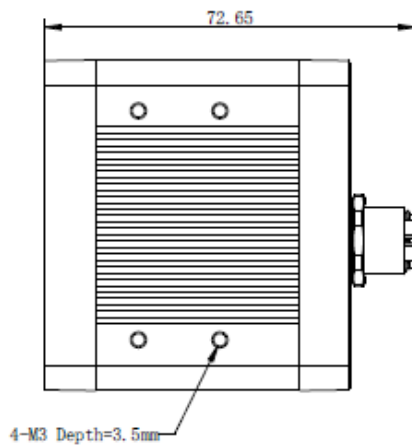
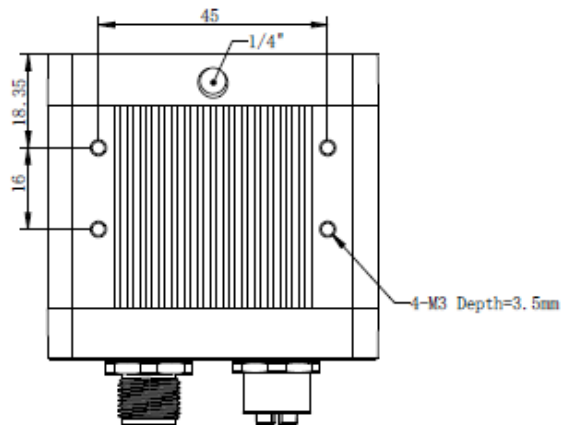
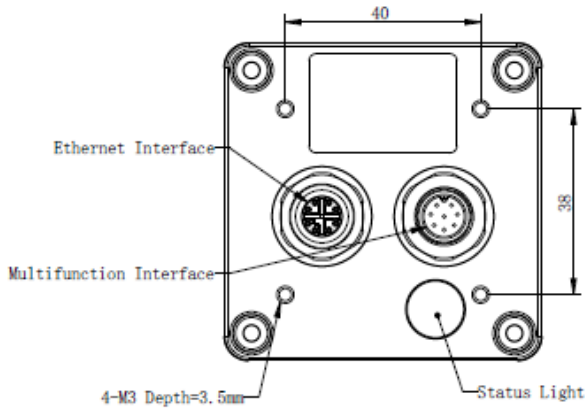


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DS77 Pro Dimension



- Sony ToF Sensor
- RGB + Depth
- Support PoE+

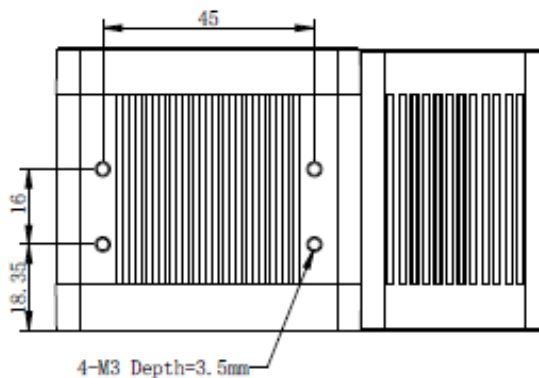
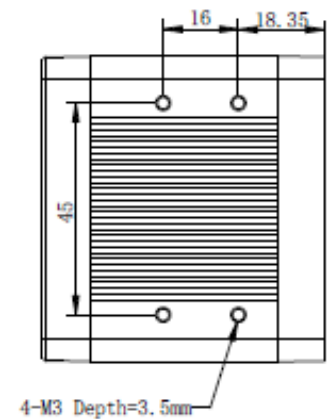
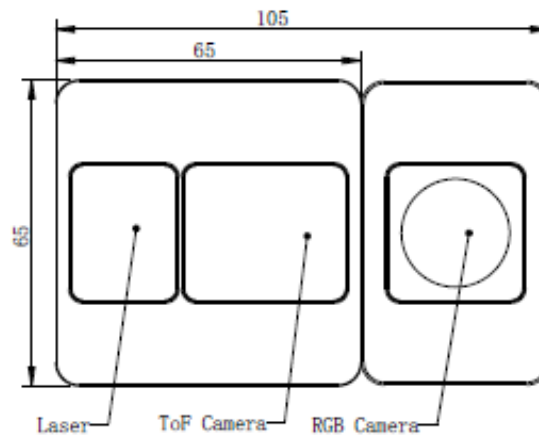
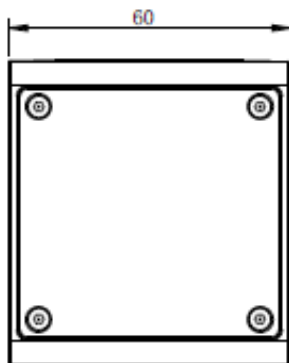
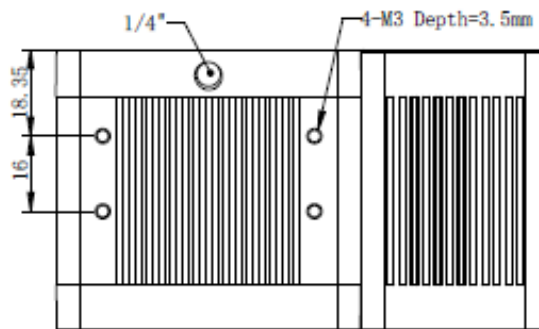
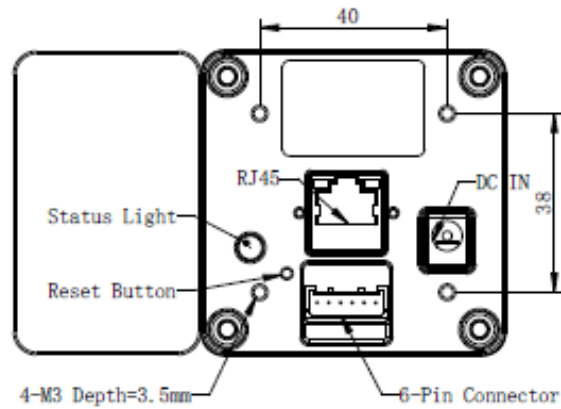


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DS77C Lite Dimension



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- Support PoE+

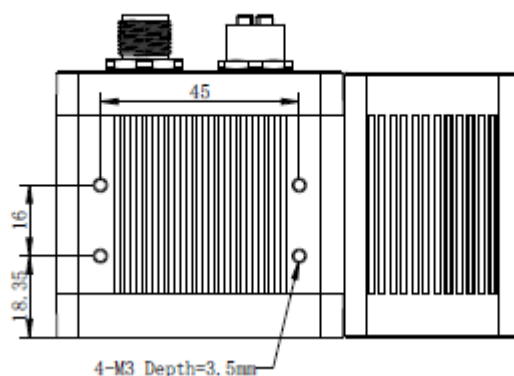
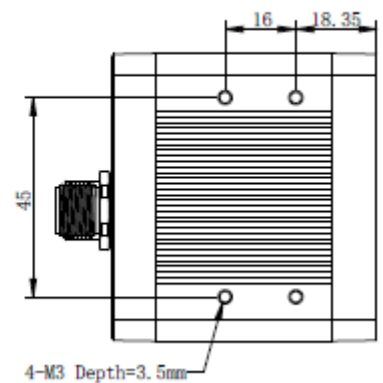
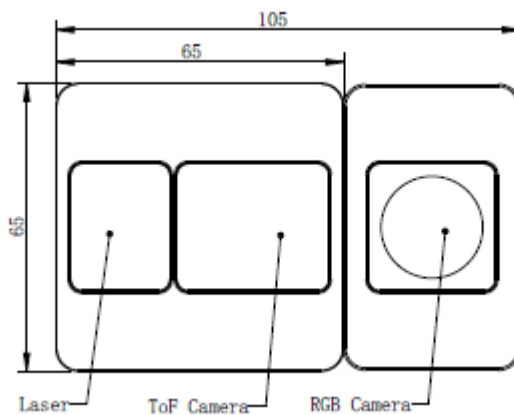
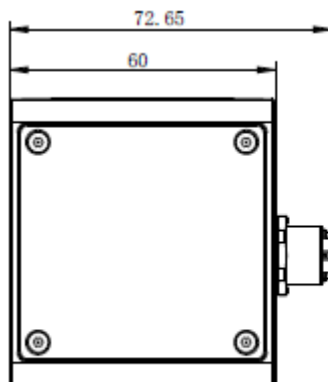
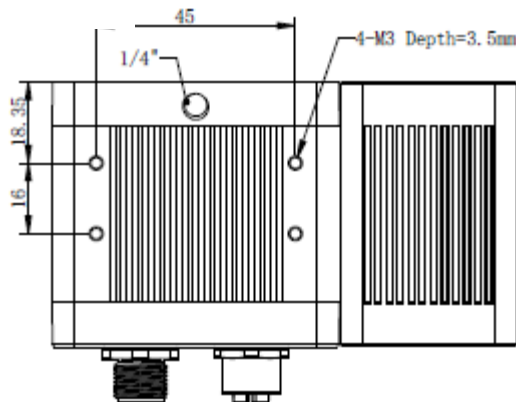
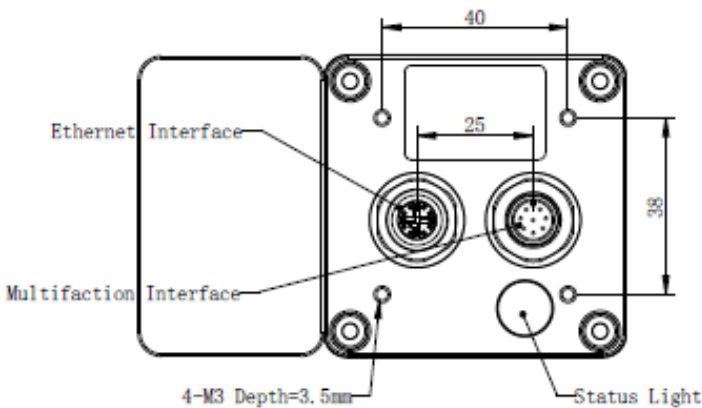


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DS77C Pro



DS77C Pro/DS77 Pro Accessories included

Part No.	Description	Picture
814000600003	-CAT5e Ethernet Cable -Aviation Connector to RJ45 -Cord Length: 3m	
814000300018	-9pin Multiple Functional Cable -Cord Length: 2m	

DS77C Lite/DS77 Lite Accessories included

Part No.	Description	Picture
814000600015	-CAT5e Ethernet Cable -RJ45 to RJ45 -Cord Length: 3m	
814000300019	-DC 12~24V -Cord Length: 2m	
814000300014	-6pin Multiple Functional Cable -RS485, EXT IO -Cord Length: 1m	

Selectable Accessories

Item	Description	Picture	Price
1	-CAT5e Ethernet Cable -Aviation Connector to RJ45 -Cord Length: 5m		30usd
2	-CAT5e Ethernet Cable -Aviation Connector to RJ45 -Cord Length: 10m		45usd
3	-CAT5e Ethernet Cable -Aviation Connector to RJ45 -Cord Length: 20m		70usd
4	-CAT5e Ethernet Cable -Aviation Connector to RJ45 -Cord Length: 50m		95usd

Suggested PoE+ Injector

Supplier	Model
H3C	EWPAM2NPoE+
TP LINK	TL-PoE+170S

Vzense

ToF sensor & application



About Vzense Technology

Since 2016, Vzense Technology has been continuously pushing the boundaries of TOF sensor development and its application through the projects of global leading customers. Our team has 20+ years of experience in consumer electronics industry and supply chain management. Vzense successfully brought product quality, time of development, cost and advanced AI altogether into our creative products. We shipped over 100 thousand of products to big and small customers in 40+ countries. Our product development and supply chain is based in China and US, engineering service in China, US and EU, resellers in US, EU, and Japan.



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China Machine Vision Industry Union



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SDK Download:

<https://github.com/vzense>

