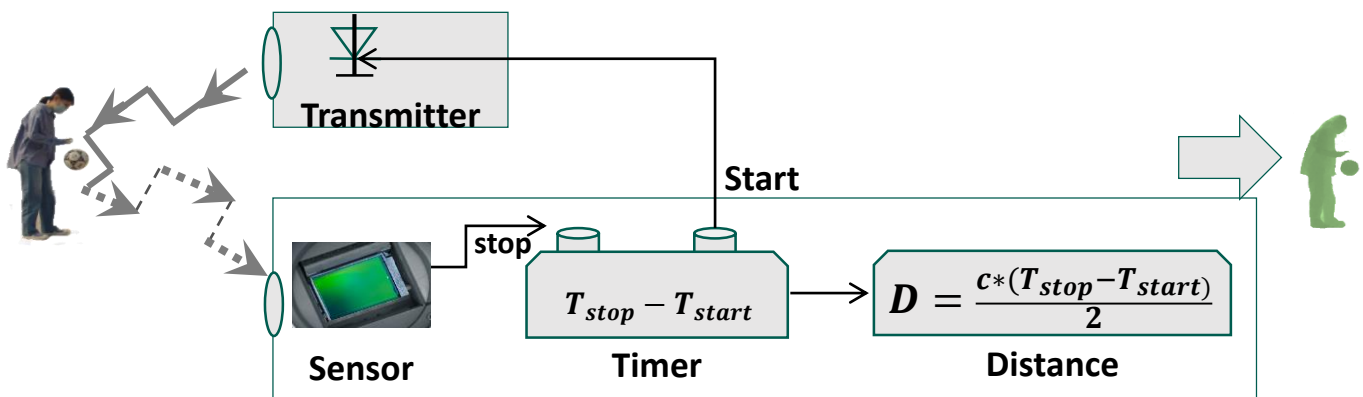# DS series

Features Sony Depth Sense ToF sensor

Class 1 Laser Product

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).
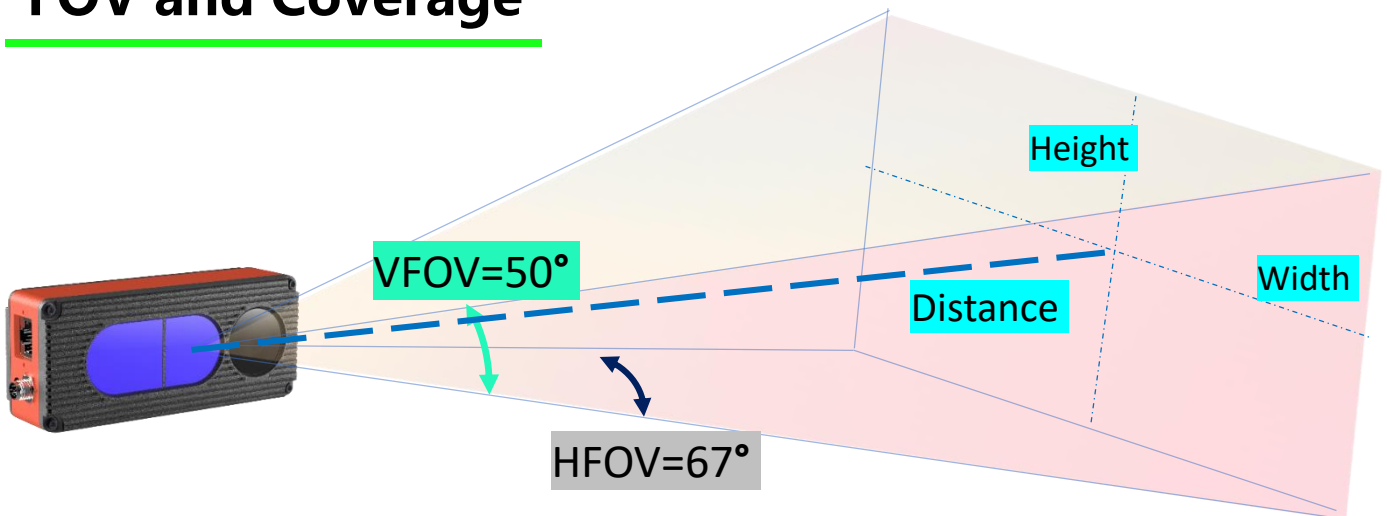
DS86 & DS87

SONY ToF + RGB Camera Industrial Grade

Model	DS86	DS87
Interface with Host		
Technology	ToF (Time-of-flight) Depth Camera	
Depth Sensor Resolution and Frame rate	640 x 480@15FPS	
ToF HDR Mode	Supported with Max. 10fps	
Depth Sensor Field of View	H-67° V-50°	
RGB Sensor Resolution and Frame rate	1600*1200@15fps	
RGB Sensor Field of View	H-70° V-50°	
Output Formats	16bit (Depth) + 8bit (IR) + JPEG (RGB)	
Use Range	0.15m ~ 5m*	
Accuracy	<1%*	
Power Consumption	Average Max. 7W(Ref)	
Illumination	940nm, 2 x 6W Optical Power VCSEL	
Dimension(L*H*W)	125mm*50mm*34.5mm	131.3mm*50mm*44.5mm
Weight	256g	326g
Power Supply	DC power	PoE+ or DC power
Interface	Gigabit Ethernet	
Digital I/O(Synchronization)	1in, Passive Sync Signal	
Enclosure Rating	IP42	IP67
Working/Storage Temperature	-20℃-50℃/-30℃-70℃	
Software	C/C++ /Python/C #/ROS1/ROS2	
Operation System	Windows 7/8/10/11, Linux, Arm Linux	
Cooling	Passive, no fan	
Certification	FCC/CE/FDA	
Eye safety	Class 1	

*Accuracy error and Use Range vary with the reflectivity of the measured object

FOV and Coverage

VFOV=50°

HFOV=67°

Height

Distance

Width

DS86 & DS87 ToF FOV 67°(H)*50°(V)

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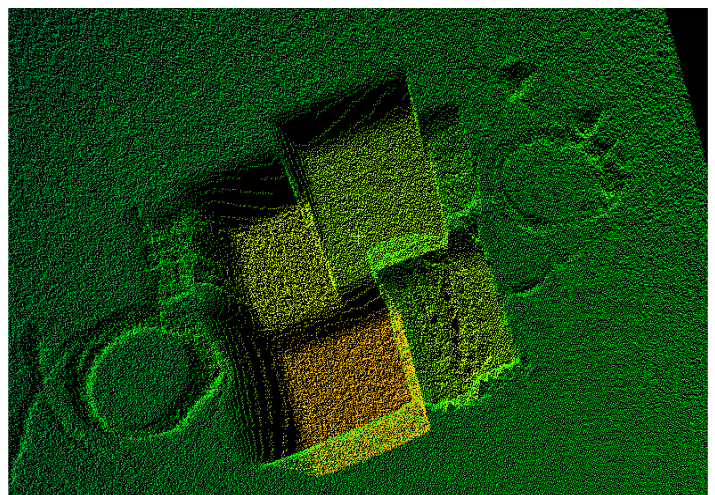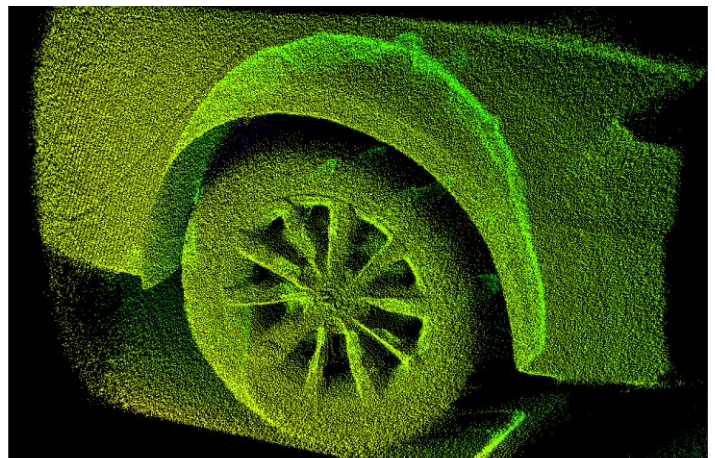
$$Height = tan\left(\frac{VFOV}{2}\right) * Distance * 2$$

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

Distance (meter)	Width (meter)	Height (meter)
1	1.32	0.93
2	2.65	1.86
3	3.97	2.80
4	5.29	3.73

* the coverage is still limited by the distance

Key Feature

- High accuracy and precision

- HDR mode supported to obtain data in high contrast, complex scenes

- Works well under bright sunshine or in dark scenes

- 2MP RGB resolution, Global shutter

- Matched depth image and RGB image

- IP67 and aviation plugs option selectable

ScepterSDK

| ScepterGUITool	ScepterGUITool is a graphical interface tool developed based on ScepterSDK, which provides depth image color mapping display, 3D point cloud display, filter parameter adjustment, device parameter setting, RGB & Depth alignment and other functions.
Suite for OS and platforms	Support for different operating systems and platforms such as Windows, Ubuntu 16/18/20, Arm Linux. The development kit includes dynamic libraries, C/C + + code samples, OPENCV samples, and precompiled bin files.
Wrappers	Python API, and integration with the following third parties: ROS1, ROS2, C# , etc. Halcon, GenICam will coming soon.
Code Samples	The code samples include operating systems, platforms, and wrappers supported by the SDK. These examples demonstrate how easy it is to use the SDK to embed snippets of code to access the camera into your application. You can view C/C + + samples with examples of point cloud capture and save, parameter settings, and trigger mode settings.

The SDK is still evolving, add new features to extend your project's needs. Click on ScepterSDK to view details or download.
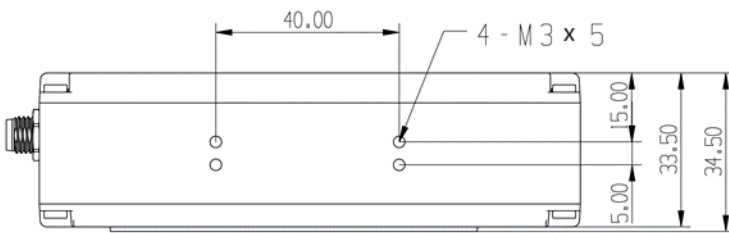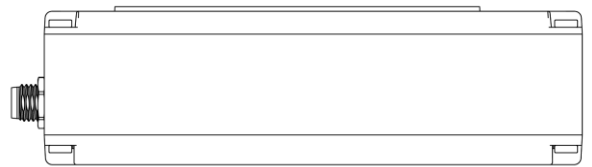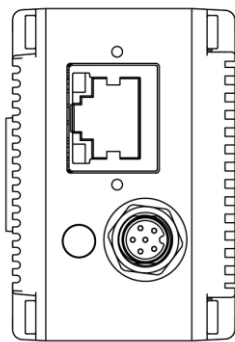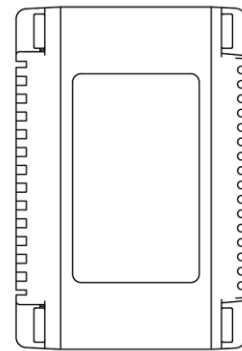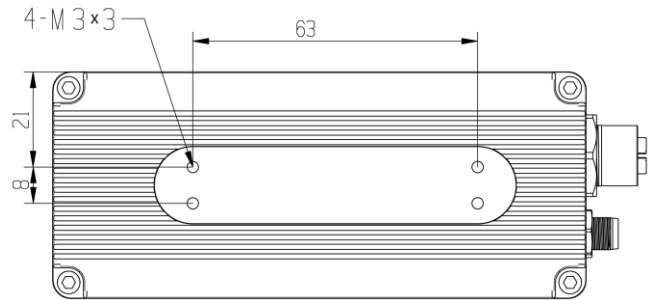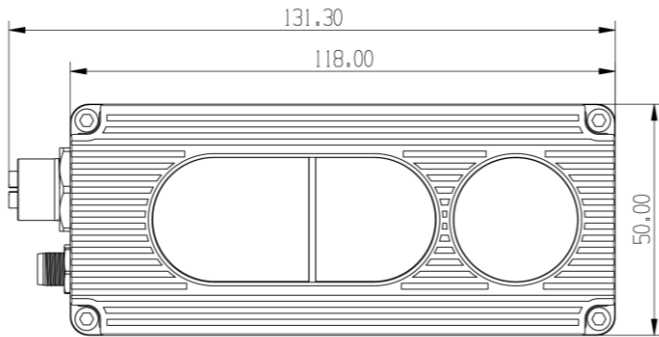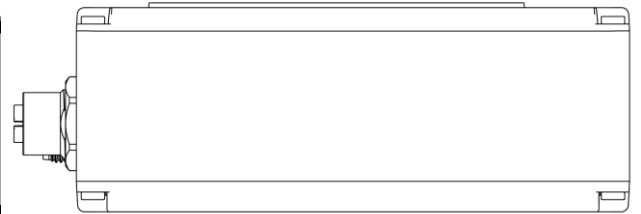
DS86 Dimension
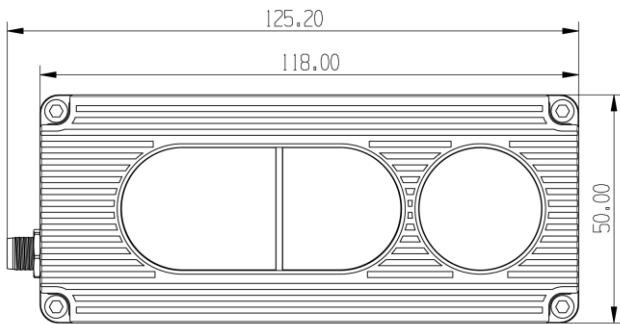
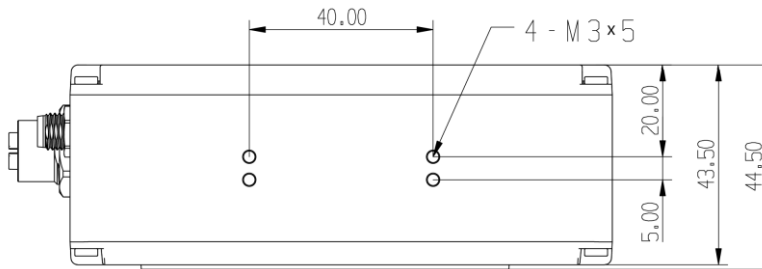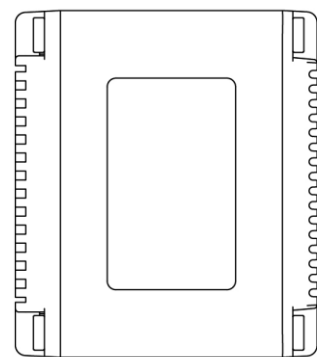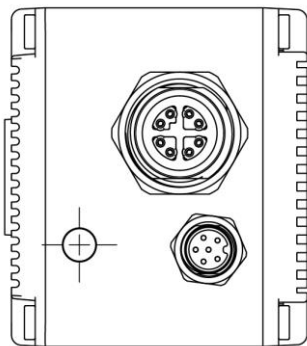Front View
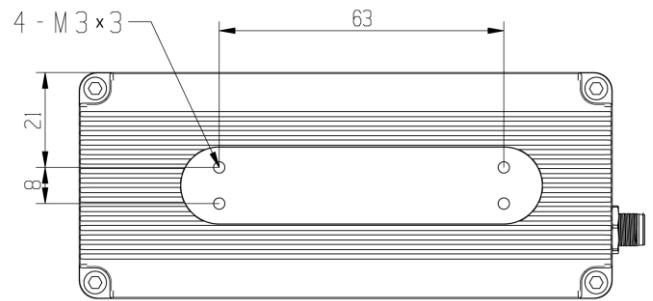
Back View

Bottom View

Top View

Left View

Right View

DS87 Dimension

Front View

Back View

Bottom View

Top View

Left View

Right View

Accessories included

Model	Description	Picture
DS86	-CAT6Ethernet Cable -3m	
	-M6 A CODE Multiple Functional Cable -2m	
DS87	-M12 X CODE CAT6 Ethernet Cable -3m	
	-M6 A CODE Multiple Functional Cable -2m	

About us

Since 2016, the GMI team has been engaged in the research of three-dimensional images, computer vision, image processing, sensor fusion, gesture and facial recognition, and customized the application and solution of ToF (Time-of-Flight) perception technology as the company's long-term development direction. After six years of ToF technology experience, the GMI team not only provides cost-effective standard products, but also provides comprehensive customized services including hardware, software, algorithms and optics.

Contact us

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