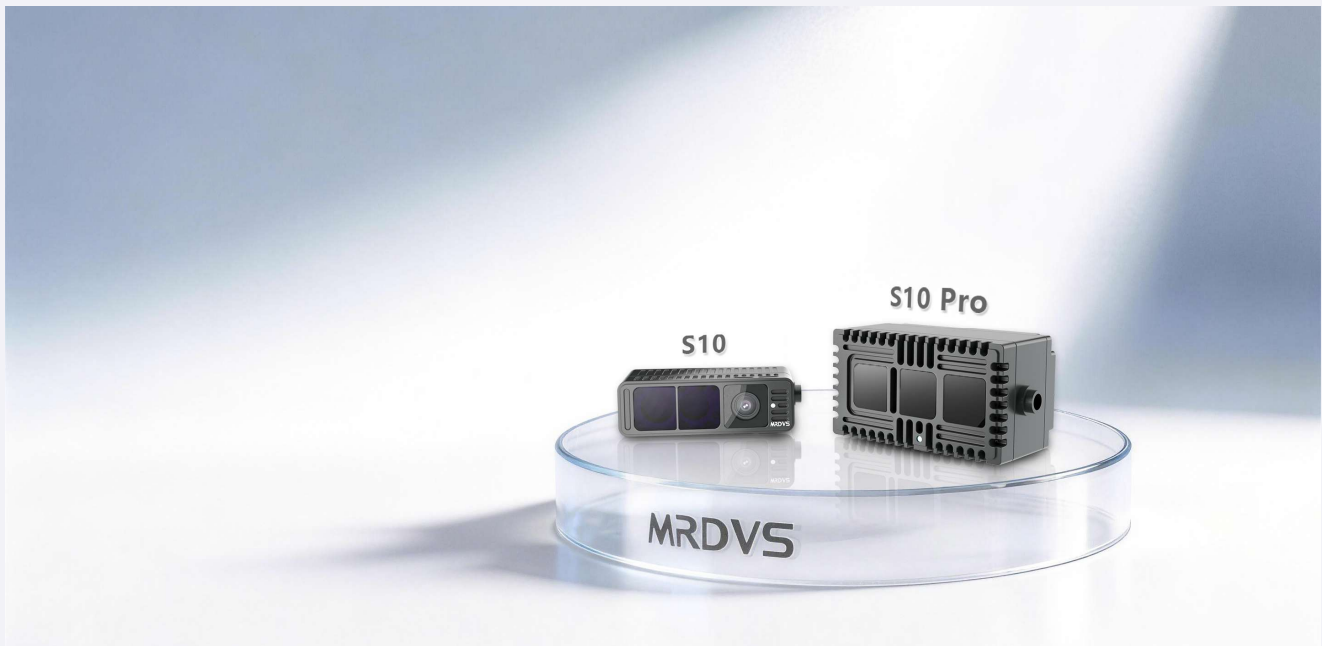


S10 Series RGBD Cameras

V2.1 2026-9-7

MRDVS



MRDVS S10 is a series of compact, high-performance, cost-effective industrial RGB-D cameras. It offers a wide measurement range, with the standard version covering 0.3-8 m and the maximum range extending to 0.3-17 m. The camera performs spatial and temporal alignment of RGB and depth images internally. With a built-in SoC, it can output depth maps, intensity images, RGB images, point clouds, and obstacle avoidance algorithm results. In addition to Ethernet, the camera provides two I/O outputs and two I/O inputs, supporting switching among four obstacle avoidance zones and the output of three types of signals: emergency stop, deceleration, and safety signals.

Key Features

1 Accurate Long-Range Perception and Motion Blur Resistance

Based on dToF technology, the camera can accurately measure distances in complex, dynamic indoor and outdoor environments, providing more stable and clear depth data for fast-moving outdoor unmanned vehicles, unmanned forklifts, drones, and other equipment.

2 Strong Multipath Interference Resistance

Compared with iToF cameras, the S10 better handles overlapping reflected signals and multipath interference in confined spaces, providing more reliable distance data.

3 Adaptability to High-Reflectivity Objects and Dynamic Reflectivity Ranges

The S10 can accurately extract depth information from high-reflectivity objects, ensuring stable performance in high-dynamic-range scenes.

4 Low Power Consumption and Fast Response

The camera maintains low power consumption while providing fast response, with a maximum frame rate of 20 fps for S10 and 10 fps for S10 Pro, enabling timely response to sudden obstacles and efficient, accurate obstacle avoidance.

5 Supports Simultaneous Operation of Multiple Devices

In multi-robot environments, the S10 uses an optimized dToF design to minimize mutual interference between devices, allowing multiple cameras to operate simultaneously.

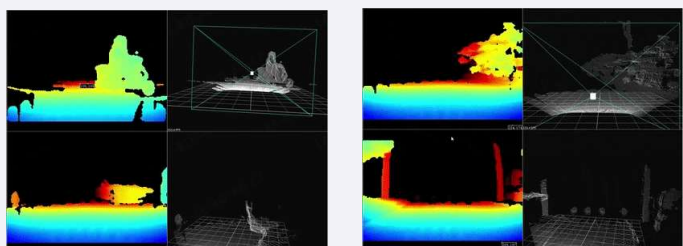
6 Supports Operation in Strong Outdoor Light

The S10 provides strong resistance to ambient sunlight. Under 100 kLux ambient light, it can measure objects with 90% reflectivity at distances of up to 8 m, while the S10 Pro can reach up to 17 m.

7 Built-in Obstacle Avoidance Algorithm with Direct I/O Signal Output

Users can choose between two operation modes: transmitting point cloud data via Ethernet and integrating it into the existing obstacle avoidance system, or directly using the built-in obstacle avoidance algorithm and sending deceleration or stop commands to the controller through I/O ports.

Application examples



S10 Series RGBD Cameras

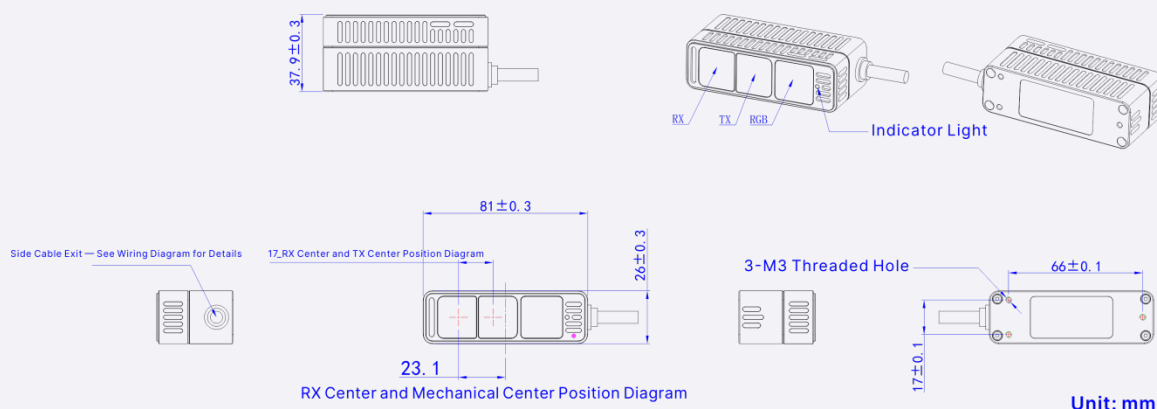
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Product Specifications

Model	S10		S10 Pro
Laser Wavelength	940 nm		940 nm
Output	Depth map/RGB/IR amplitude image		Depth map/RGB/IR amplitude image
TOF Resolution/Frame Rate	240×160 @Max. 20fps, typical 15fps		240×160 @Max. 10fps, typical 10fps
TOF Field of View (H×V)	90°×62°±3°	120°×78°±3°	61°×90°±3°
RGB Resolution/Frame Rate ^[1]	1920×1080 @Max.20fps, typical 15fps	1632×1224 @Max. 20fps, typical 15fps	1920×1080 @Max.10fps, typical 10fps
RGB Field of View (H×V) ^[1]	100°×70°±3°	120°×90°±3°	61°×90°±3°
Detection Range	0.3-8m (90% reflectivity) 0.3-3m (5% reflectivity)		0.3~17m (90% reflectivity) 0.3~13m (10% reflectivity)
Measurement Accuracy	≤3cm		≤3cm
Average Power Consumption	≤4W		≤7W
Size ^[2]	80mm×37mm×25mm		92mm×47mm×51mm
Weight	190g		460g
Power Supply	12V~28V		24V
Communication Interfaces	Ethernet/GMSL ^[3] /IO ^[4]		Ethernet/IO
IP Rating	IP54		IP67
Eye Safety	CLASS I		CLASS I
Operating Temperature	-20°C~60°C		-20°C~60°C
Storage Temperature	-40°C~85°C		-40°C~85°C
Time Synchronization	PTP		PTP
Software Support	C/C++/ROS SDK		C/C++/ROS SDK
Supported Platforms	Windows 7/8/10/11, Linux, Arm Linux/ROS		Windows 7/8/10/11, Linux, Arm Linux/ROS
Ambient Light Immunity	100 kLux		100 kLux

[1] S10 is available in a Lite version without RGB; [2] Product dimensions are subject to the 3D model; [3] Contact MRDVS for details about the GMSL version; [4] The S10 Lite 120° version includes an I/O cable.



Note: The dimensional drawing for the S10 Pro is available in the MRDVS Knowledge Community.