SATLAB GEOSOLUTIONS

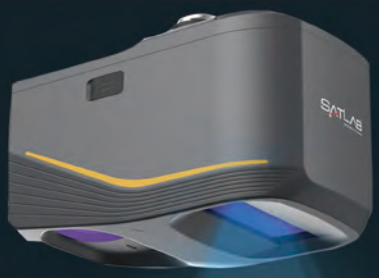
Apus-MX

UAV LiDAR

Made by Sweden

Apus-MX UAV LiDAR

Apus series new member



As the latest addition to the Apus series, the Apus-MX UAV LiDAR has undergone a comprehensive upgrade, bringing revolutionary aerial surveying precision and efficiency.

Whether it's complex terrains or urban environments with significant variations in structural heights, the Apus-MX ensures high productivity and saves valuable time. This ultra-portable system integrates powerful long-range laser scanner, an advanced IMU, and an industrial-grade RGB orthographic camera, providing unparalleled accuracy.

80° field of view | 1200 m laser range | Up to 8 returns | Up to 550,000 meas. per second | 260 line per second | 1.55 kg weight

Features

Higher flight height, wider coverage

With 80° FOV and maximum 1200 m measurement range, this powerful system is able to be flown at higher altitudes to ensure comprehensive coverage and increased efficiency by scanning more expansive areas in fewer flights. Save operational costs with reduced flight times and improve safety and reliability with better obstacle detection in difficult-to-access or hazardous areas.

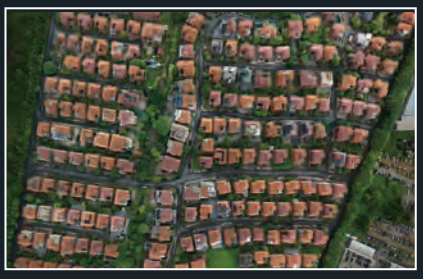
Increased vegetation infiltration

With up to 8 returns, Apus-MX effortlessly penetrates dense vegetation to capture ground point clouds more efficiently. These point clouds enable the creation of highly accurate digital elevation models (DEM) and digital surface models (DSM), perfectly tailored for forestry surveying and various other applications.

Orthographic RGB Camera Integration

Equipped with a 45 MP orthographic RGB camera, Apus-MX generates high-resolution images and acquires high-quality color point clouds for efficient 3D model reconstruction and digital ortho mosaic.





Software

Sat-LiDAR

Point Cloud Post-Processing Software

Sat-LiDAR is designed to offer a comprehensive and user-friendly solution for managing and processing Apus series LiDAR point cloud data, ensuring high precision and quality in your projects.

Simple Workflow

Apus-MX collaborates seamlessly with Sat-Air for flight parameter configuration and device status monitoring. Meanwhile, the Sat-LiDAR software streamlines trajectory calculation, data fusion, point cloud optimization, and accuracy validation, offering effortless export of color point clouds, DEMs, and contour lines.

UAV with
Apus series payload

Sat-Air
Flight parameter setting

→

Sat-LiDAR
One-click processing

→

Export
Color point cloud/DEM

Applications

Flight Parameters

Pulse-repetition frequency (PRF)	100 kHz	300 kHz	550 kHz
Max. measuring range@ρ> 15%	600 m	420 m	220 m
Max. measuring range@ρ> 60%	1200 m	720 m	420 m
Max. operating flight altitude AGL	424 m	297 m	155 m

Technical Specifications

LiDAR Unit	**System accuracy**	H: 5 cm@300 m V: 5 cm@300 m
	Range accuracy	1.5 cm/0.5 cm@150 m
	Measuring range	1200 m@60% ref.
	Field of view	80°
	Returns	Up to 8
	Laser pulse repetition rate	Up to 550 kHz
	Max. data generated*	4,400,000 points/sec
POS Unit	**GNSS**	GPS: L1, L2, L5 GLONASS: L1, L2 BEIDOU: B1, B2, B3 GALILEO: E1, E5a, E5b
	IMU frequency	500 Hz
	Position accuracy (pp)	0.01 m RMS horizontal 0.02 m RMS vertical
	Attitude accuracy (pp)	0.019° Heading 0.006° Roll/Pitch

Camera Unit	**Effective pixel**	45 MP
	Focal length	18 mm
	Sensor size	36 x 24 mm (8192*5468)
	Minimum photo intervals	1 s
	Field of view	90.0°*67.4°
System	**Weight**	1.55 kg
	Temperature range	-20°C～+50°C (operation) -20°C～+65°C (storage)
	IP Rating	IP64
	Data storage	SSD 1 TByte (expandable 512 GByte SD Card)
	Data transmission mode	Type-C, up to 160 M/S
	Mounting interface	DJI skyport
	Manipulation	M300/M350 remote control

* Theoretical maximum of points with all shots yielding the maximum number of echoes. May vary depending on flight and survey conditions, and surveyed environment.

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