CHCNAV

NEW GENERATION AIRBORNE LIDAR SYSTEM

AlphaAir 10 is a new generation of mid-range airborne LiDAR system totally launched by CHCNAV. Based on the design concept of "strong penetration, high precision", AlphaAir 10 integrates high-performance LiDAR, high-precision inertial navigation and full-frame camera which are equipped with UAV, CoPre and CoProcess software to provide "high precision, high efficiency, low cost" 3D data acquisition and processing of the whole process solutions for customers in terrain surveying, engineering survey, power line inspection and other industries.

AlphaAir 10 SPECIFICATIONS

General system performance

Absolute Hz accuracy	< 5 cm RMS
Absolute Z accuracy	< 5 cm RMS [1]
Accuracy conditions	Without control points, @150 m flight altitude AGL with 7 m/s speed
Mounting	quickly install & release design
Weight of instrument	1.55 kg
Dimensions of instrument	210 mm x 112 mm x 131 mm
Data storage	512 GB (optional upgrade to 1 TB)
Coping speed	80 m/s

Laser scanner

Laser class	1 (in accordance with IEC 60825-1:2014)
Max. range, reflectivity >80%	800 m
Minimum range	10 m
Accuracy [2]	10 mm
Precision [3]	5 mm (1σ)
Field of view	72°
Maximum scan rate	Up to 500,000 pts/sec
Scan speed (selectable)	50 ~ 250 scans/sec
Return numbers	Up to 8
Angular resolution	0.001° (5 Hz)

Positioning and orientation system

GNSS system	GPS: L1,L2,L5 GLONASS: L1,L2 BEIDOU: B1,B2,B3 GALILEO: E1,E5a,E5b QZSS: L1 C/A,L5
IMU update rate	500 Hz
Attitude accuracy after post-processing	0.006 degrees RMS pitch/roll 0.019 degrees RMS heading
Position accuracy after post-processing	0.010 m RMS horizontal, 0.020 m RMS vertical

Environmental

Operating temperature	-20°C ~ +50°C
Storage temperature	-20°C ~ +60°C
IP rating	IP64
Humidity (operating)	80%, non-condensing

Electrical

Input voltage	DC 13 ~ 32 V
Power consumption	45 W
Power source	Depending on UAV battery or by Skyport (DJI M300).

Equipped software

CoPre pre-processing software	Data copy, POS solve, Adjust & Refine, Generate point cloud
CoProcess point cloud processing software	Terrain module, road module, extraction module, volume module

* All specifications are subject to change without notice.