CHCNAV

AlphaUni 10
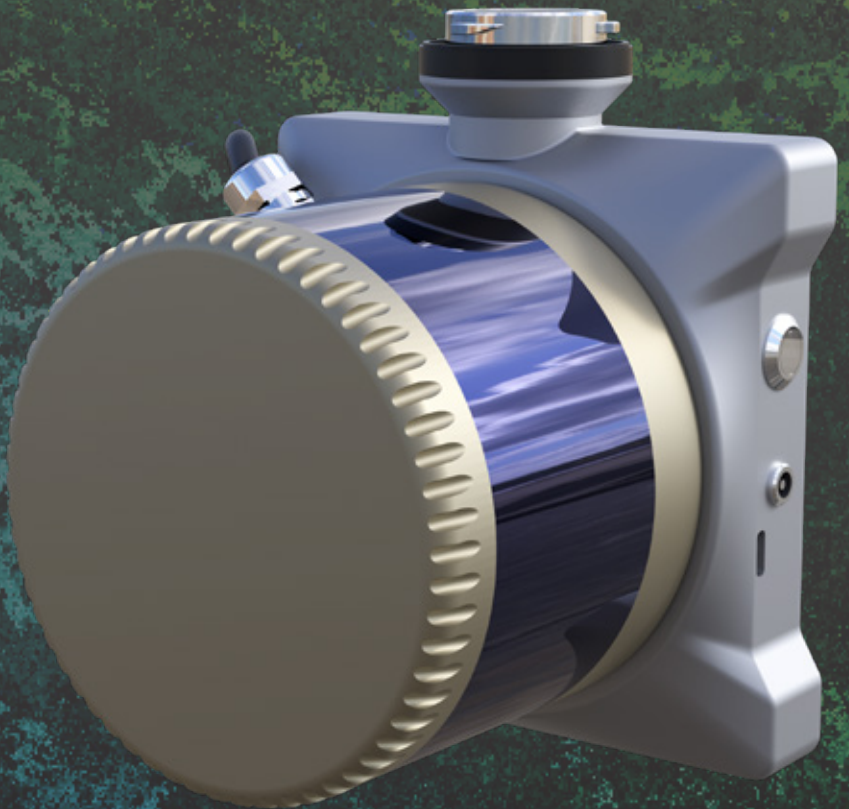## POCKET LiDAR

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MAPPING
& GEOSPATIAL

ONE OF
THE LIGHTEST
MULTI-PLATFORM
LiDAR SOLUTIONS

AlphaUni 10 is one of the latest compact & lightest multi-platform LiDAR system launched by CHCNAV which can reach 5cm absolute accuracy. The system integrates high-precision HESAI scanner and advanced GNSS & IMU module. Due to it's special designed structure and light weight, AlphaUni 10 is suitable for data collection on various mobile platforms: Airborne, vehicle even backpack. It also supports external camera extensible module for picture data captured at same time.

THE LIGHTEST UNIT IN ITS CLASS

The AlphaUni 10 is the lightest LiDAR system with HESAI scanner which is only 1.1kg. The LiDAR's weight is a constraint for any UAV. The drone needs to lift the entire payload, as otherwise no data acquisition is possible! The lighter the unit, the greater the productivity as the UAV can fly longer.

ADVANCED ACCURACY

The AlphaUni 10 combines industrial-grade GNSS and high-precision IMU. The high-accuracy INS is pivotal to collect high quality LiDAR data because without it, your point cloud would be nothing more than an arbitrary collection of points. This allows the AU10 to deliver an absolute accuracy of 5 to 10 cm. To further improve accuracy and precision, users can apply adjustment algorithms in the CoPre software.

MOST UNIVERSAL INSTALLATION

The AlphaUni's multi-platform structure allows it to be used as a multi-purpose unit in different scenarios. AlphaUni supports both Skyport and Alphaport depends on your choice. It can be mounted on a variety of platforms, including different models of UAV, multi-rotor and fixed-wing VTOL UAS, vehicles, rail trolleys, backpacks, boats, for data collection in the harshest environments.

EFFICIENT SCANNING

The AlphaUni 10 supports one-button captured without any complex parameter settings, and point cloud data auto-processing in CoPre software. It means that it addresses not only LiDAR survey experts, but also users who had no access to this technology before, due to high investments and complicated work low, which is not the case with the AU10.

AIRBORNE SURVEYING

DJI Skyport or Alphaport

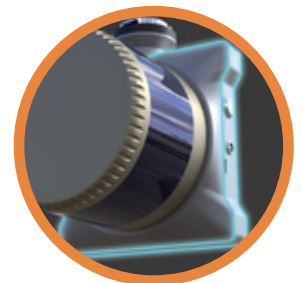The AlphaUni 10 supports Skyport for DJI drone connect directly or Alphaport for CHC multi-platform design.

One touch to start

The LEDs and speaker indicate the AU10's status and there is only one button to operate, no parameter settings are required.

Easy data transfer

The 256 GB memory allows 10 flight missions.160 Mb/s high-speed data transfer via USB C interface without powering the unit.

Industrial reliability

AU10 has IP64 protection against any common field environment.

SPECIFICATIONS

General system performance

Absolute accuracy	<10 cm HZ <5 cm V
Accuracy conditions	Without control points, @50 m flight altitude AGL
Mounting	Skyport for DJI M300/200 Alphaport for CHC multi-platforms
Weight of instrument	1.1 kg
Dimensions of instrument	120 mm x 120 mm x 110 mm
Communications	1× port for GNSS antenna Skyport/Alphaport interface 1× USB Type-C, copy speed up to 160 Mb/s
Data storage	128 GB
Operation	One-touch start & acquisition
Transport box	1× protected soft bag with custom precut foam

Laser scanner

Laser class	1 (in accordance with IEC 60825-1:2014)
Scan range	Max 300 m
Flight height	60 m - 100 m
Max. returns supported	Triple echo
Relative accuracy	3 cm
Field of view	360° (Horizontal) × 40° (Vertical)
Scan rate	640 000 pts/sec (irst or strongest return) 1280 000 pts/sec (dual return)

Positioning and orientation system

GNSS system	Dual-frequency GNSS GPS, GLONASS, BeiDou, Galileo, sampling frequency 5 Hz
IMU update rate	600 Hz
Position accuracy NO GNSS outage	0.010 m RMS horizontal, 0.020 m RMS vertical, 0.005 degrees RMS pitch/roll, 0.010 degrees RMS heading

Imaging system

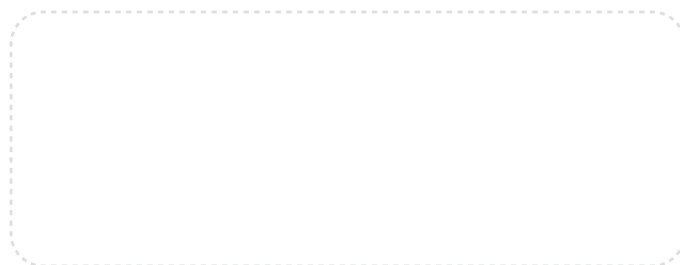|	
Camera type	Extensible calibrated Sony A5100
Resolution	6000 × 4000
Effective pixels	24.3 MP, 11 fps

Environmental

Operating temperature	-10°C ~ +50°C
Storage temperature	-20°C ~ +60°C
IP rating	IP64
Humidity (operating)	80%, non-condensing

Electrical

Input voltage	DC 12 ~ 14 V
Power consumption	32 W
Power source	Depending on battery type or by Skyport from DJI M300

* Specifications are subject to change without notice.

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