



Version A

Version C

YellowScan Mapper+OEM.

Efficient and affordable
integrated LiDAR solution
for UAV manufacturers

YellowScan Mapper+ OEM is the next generation of integrated lidar solutions.

This particularly lightweight system with long range capabilities, high-end point density, as well as advanced accuracy and precision, makes it the perfect UAV LiDAR mapping tool for fixed-wing integration - all in an OEM package.



Technologies inside



Key differentiators

- ▶ High point density
- ▶ Lightweight
- ▶ Long range
- ▶ Industrial grade module



Integrations

- ▶ Single rotor UAV
- ▶ Multirotor UAV
- ▶ VTOL UAV

Technical specifications.

Laser scanner	Livox AVIA	
GNSS inertial solution	Applanix APX-15 UAV	
Precision ⁽¹⁾	3.5 cm	
Accuracy ⁽²⁾	4 cm	
Typ. flight speed	18 m/s	
Typ. flying height	80 m	
Max. rec. flying height	100 m	
Point density	95 pts/sqm @ 100 m AGL 18 m/s	
Laser range	Up to 230 m	
Laser wavelength	905 nm	
Scanner field-of-view	70.4° x 4.5°	
Max. data generated ⁽⁴⁾	720 000 pts/sec	

(1) Precision, also called reproducibility or repeatability, accounts for the variation in successive measurements taken on the same target. Here precision value is obtained by averaging the precision from 3 flight levels @60, 90 and 120mAGL. At each flight level, the precision is considered as the mean value of absolute elevation differences between 2 flight lines recorded in opposite directions over a nadir-located 40m² hard surface area.

Echoes per shot	Up to 3	
Shots per second	Up to 240 000	
Scanning frequency	Up to 10 Hz	
Autonomy	Powered from UAV	
Power consumption	19 W	
Operating temperature	-10 to +40 °C	
RGB camera ^{VERSION A}	Optional	
RGB camera ^{VERSION C}	Built-in 8 MP	
Weight ^{VERSION A}	0.75 kg (1.7 lbs)	
Size ^{VERSION A}	L 144 x W 66 x H 93 mm	
Weight ^{VERSION C}	0.73 kg (1.6 lbs)	
Size ^{VERSION C}	L 100 x W 97 x H 94 mm	

(2) Accuracy is the degree of conformity of a measured position to its actual (true) value. Here accuracy value is obtained by averaging the accuracy from 3 flight levels @ 60, 90 and 120mAGL. At each flight level, the accuracy is considered as the RMSE value of the elevation differences between targets and the point cloud extracted from 2 flight lines recorded in opposite directions. Validation targets are located within a 40m wide corridor centered along the flight line axis.

Package includes.

✓ Hardware:

- ▶ YellowScan Mapper+OEM ^{VERSION A OR C}
- ▶ Customization of hardware to fit UAV specificity
- ▶ GNSS antenna and cable
- ▶ 2 USB flash drives
- ▶ Documentation

✓ Services:

- ▶ 1-year warranty & boresight calibration certificate
- ▶ Worldwide technical and operational support

✓ Software:

- ▶ Command server to configure, operate and monitor Mapper+ from ethernet connection
- ▶ Applanix POSPac UAV, to post-process GNSS and inertial data for highest accuracy
- ▶ YellowScan CloudStation Essential to generate, visualize, inspect, and export your data

⊕ Optional:

- ▶ CloudStation Pro: refine and improve your data quality, with more export options

Typical mission parameters.



ALTITUDE
80 m



SWATH
140 m



FLIGHT SPEED
5 - 20 m/s

