YellowScan | Designed to Innovate

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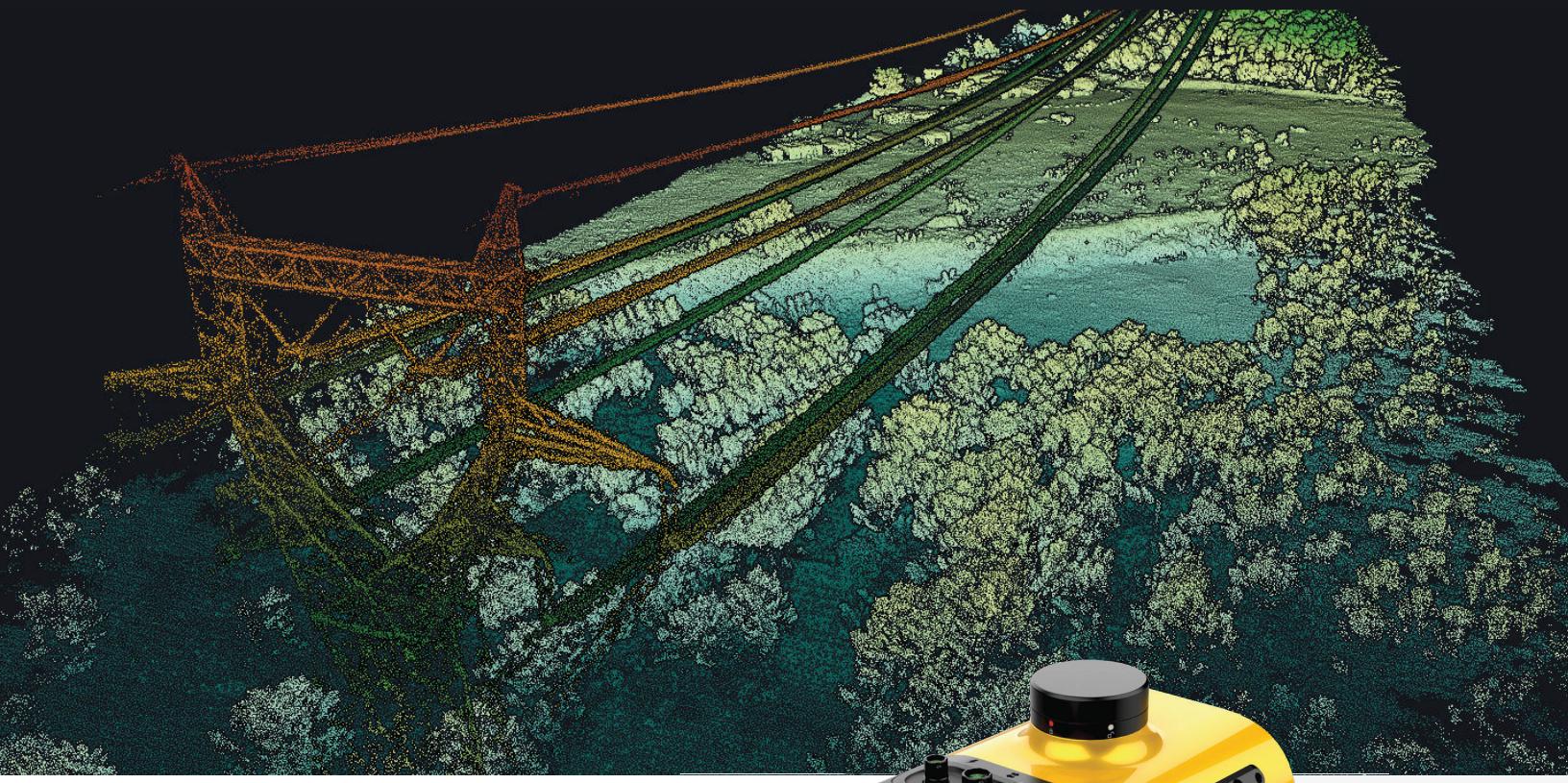

YellowScan Mapper+

Advanced performance fitted into a compact survey solution

The YellowScan Mapper+ integrates Livox AVIA laser scanner together with high performance GNSS-aided inertial navigation system into a lightweight, standalone and easy-to-use lidar system.

Proven capabilities and stable results over a wide range of applications.

Technologies inside

applanix LIVOX

Key differentiators

- High point density
- Lightweight
- 100 m typ. flying height

Integrations

- Single rotor UAV
- Multirotor UAV
- VTOL UAV

Technical specifications.

Mapper+ LiDAR system

Laser scanner	Livox AVIA
GNSS inertial solution	Applanix APX-15 UAV
Precision [1]	3.5 cm
Accuracy [2]	4 cm
Typ. flight speed	10 m/s
Typ. flying height	80 m
Max. rec. flying height	100 m
Point density	170 pts/sqm @ 100m AGL 10 m/s
Laser range	Up to 230 m
Laser wavelength	905 nm
Scanner field-of-view	70.4° x 4.5°

(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.

Max. data generated [3]	720 000 points/sec
Echoes per shot	Up to 3
Shots per second	Up to 240 000
Scanning frequency	Up to 10 Hz
RGB camera	Optional
Weight	1.1 kg (2.4 lbs) batt. excl.
Size	L 150 x W 104 x H 132 mm
Autonomy	1 hour typ.
Power consumption	35 W
Operating temperature	-10 to +40 °C

(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.

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

Optional camera module

Sensor	APS-C Type Exmor CMOS
Resolution	19.8 Mpx
Lens	Sony E 16mm F2.8
Width	78 mm
Height	73 mm
Depth	82 mm
Weight	0.3 kg (0.6 lbs) with camera lens
Power	Powered by Mapper+
Power consumption	2.2 W

Add-ons.

Optional:

- YellowScan LiveStation: the real-time in-flight LiDAR monitoring kit *(includes software & 2 radio-modems)*
- CloudStation Pro: refine and improve your data quality, with more export options
- Warranty and technical support extensions
- Stand-alone mounting bracket for DJI M600/300
- Stand-alone mounting bracket for DJI M210
- DJI skyport or Gremsy quick release adapters
- Single- or Dual-camera modules (RGB)

Package includes.

✓ Hardware:

- YellowScan Mapper+
- Quick release adapter (DJI skyport or Gremsy)
- 2 batteries
- UAV GNSS antenna and cable
- 2 USB flash drives
- Rugged backpack

✓ Services:

- 1-year unlimited technical support
- 1-year warranty
- In-person or online training
- Camera & boresight calibration certificate

✓ Software:

- Applanix POSPac UAV, to process GNSS and inertial data for highest accuracy
- YellowScan CloudStation Essential to generate, visualize, inspect, and export your data.