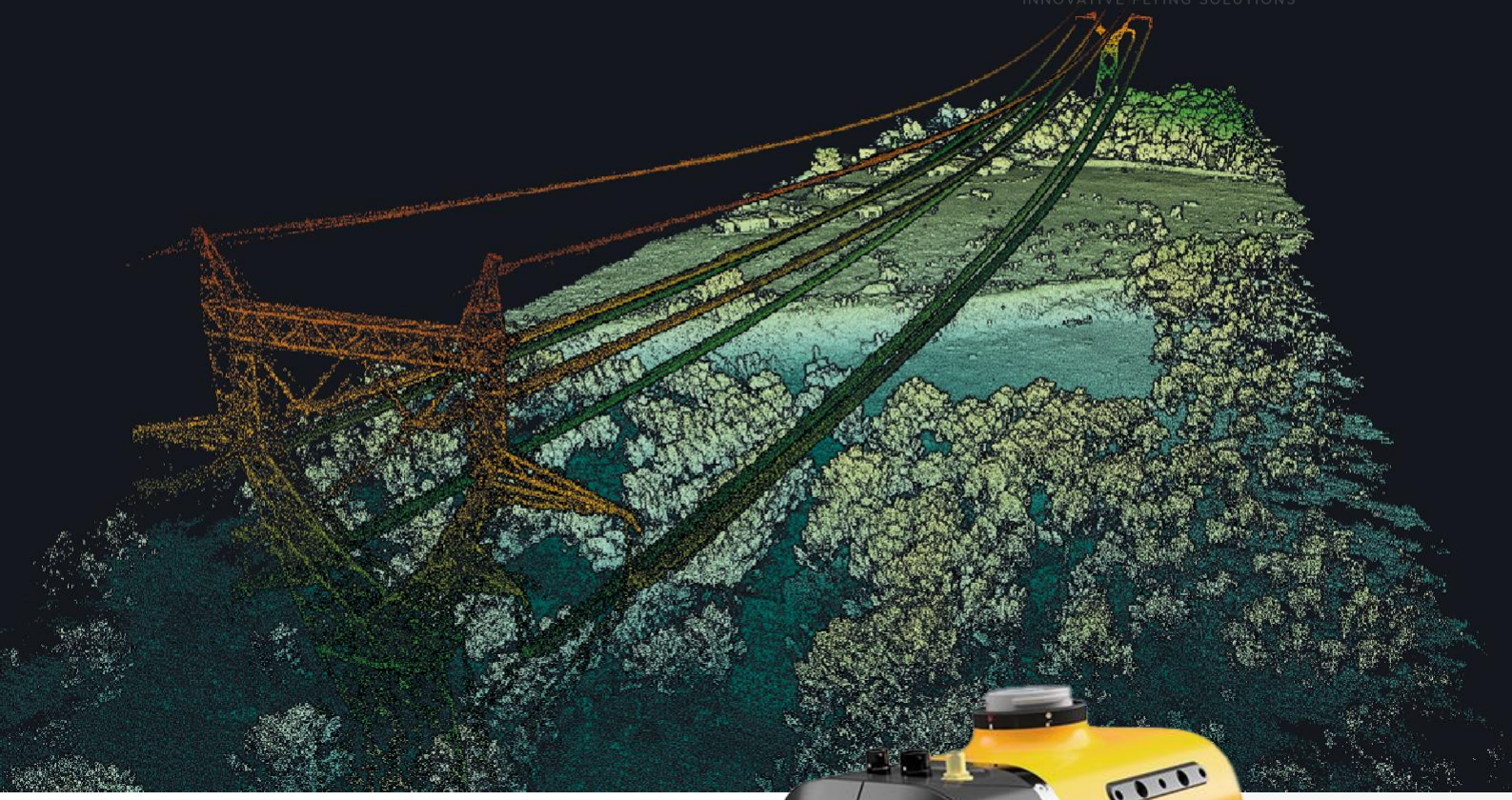
YellowScan | Designed to Innovate

GO UAV
INNOVATIVE FLYING SOLUTIONS



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

- Multirotor drones
- Helicopter drones
- Fixed–wings

Package includes.

Hardware:

- YellowScan Mapper +
- Quick release adapter (DJI skyport or Gremsy)
- Charger and 2 batteries
- 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

Software:

- Applanix POSPac UAV, to process GNSS and inertial data for highest accuracy
- YellowScan CloudStation to generate, visualize, adjust strips, classify, colorize and export your georeferenced point cloud

Optional camera module.

Product presentation:

- The camera is a Sony APS-C size Exmor™ CMOS image sensor with a BIONZ X™ processor to produce high-precision 20 MP images.
- The camera module is compatible with the SONY E-Mount and comes with a lens allowing an FOV of 83°.

Built-in camera module:

- Collect LiDAR and RGB data in a single flight
- Data are georeferenced automatically
- No need of pre-flight calibration
- The operation will be as simple as our LiDAR operation: «Just press the Yellow button»

Technical specifications.

Mapper+ LiDAR system

Scanner	Livox AVIA
Wavelength	905 nm
Precision(1)	2.5 cm
Accuracy(2)	3.0 cm
Shots per second	240 k
Echoes per shot	Up to 3
Scanner field of view	70.4°

(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.

GNSS-Inertial solution	Applanix APX-15 UAV
Size	L 15 xW 10.4 xH 12.8 cm
Autonomy	1 hour typ.
Power consumption	35 W
Weight	1.1 kg battery excl. 1.3 kg battery incl.
Operating temperature	-20 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.

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	305 gr (with camera lens)
Power	Powered by Mapper
Power consumption	2.2 W

Add-ons.

⊕ Optional software:

- YellowScan LiveStation
- Colorization module: export colorized point clouds from LiDAR +camera acquisition
- Strip Adjustment module: a point cloud enhancing toolbox for the CloudStation software
- Terrain module: export classified point clouds from the CloudStation software

⊕ Optional hardware:

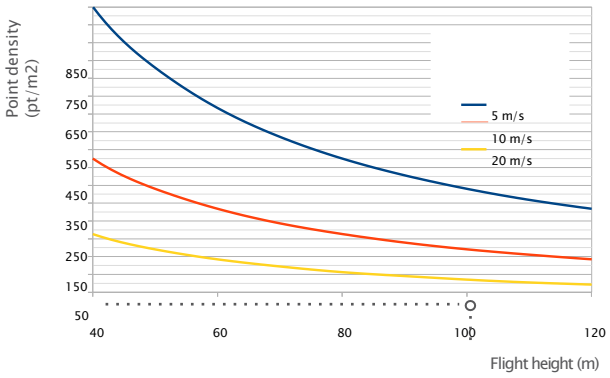
- Stand-alone mounting bracket for DJI M600/300
- Stand-alone mounting bracket for DJI M210
- DJI skyport or Gremsy quick release adapters

⊕ Optional services:

- Warranty and technical support extensions

Typical mission parameters.

Mapper+ LiDAR system

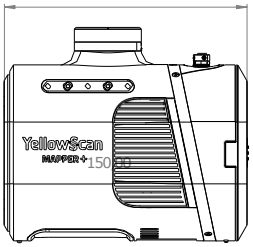


FLIGHT SPEED	ALTITUDE	POINT DENSITY
5m/s	**100m**	**340pts/sqm**
FLIGHT SPEED	ALTITUDE	POINT DENSITY
10m/s	**100m**	**170pts/sqm**
FLIGHT SPEED	ALTITUDE	POINT DENSITY
20m/s	**100m**	**90pts/sqm**

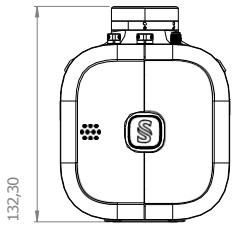
Dimensional drawings.

ⓘ All dimensions are in millimeters

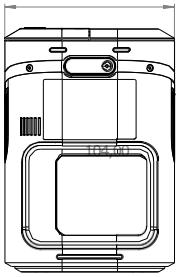
Mapper+ side view



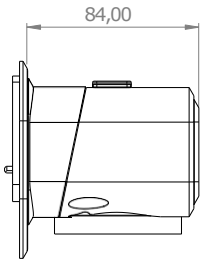
Mapper+ front view



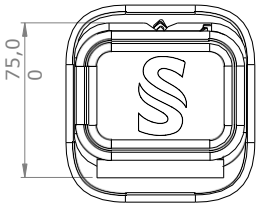
Mapper+ bottom view



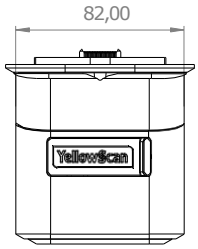
Camera module side view



Camera module front view



Camera module top view



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