PHOENIX
LiDAR SYSTEMS

NEW

RECON-A

The Phoenix **RECON-A** is the ideal solution for reconnaissance mapping missions such as vegetation encroachment on power lines. This all-in-one payload offers ease of use and efficient data collection all at an affordable price point.

The **RECON-A** maximizes point cloud density by utilizing it's multi-pattern laser to pick up even the lowest reflective points. The integrated 24 MP high resolution camera has the same FOV as the LiDAR sensor yielding maximum RGB colorization of the point cloud.

FEATURES

- Lightest unit in its class
- Multi-Pattern acquisition allows for high density data even with low reflectance

QUICK SPECS

Absolute Accuracy
3-6cm RMSEz @ 60m AGL(1)(2)(4)

Intraswath Precision
6.5cm RMSDz @ 60m AGL(1)(2)(3)

Weight
1.2 kg / 2.64 lbs

Dimensions
19.9 x 9.2 x 12.1 (cm)

Multi-Pattern Scanning
Repetitive line scan or
Non-repetitive scanning pattern

Max DJI M300 Flight time
35 Minutes

APPLICATIONS

- Utilities Mapping
- Construction Site Surveying
- Agriculture & Forestry Monitoring
- Open Pit Mining Operations
- Stockpile Volumetrics
- General Mapping

PLATFORM

OVERALL DIMENSIONS (Sensor)	19.9 x 9.2 x 12.1 (cm)
WEIGHT	1.2 kg / 2.64 lbs
CAMERA FOV	70°
CAMERA RESOLUTION	24MP
EXTERNAL STORAGE	256GB USB drive included
OPERATING VOLTAGE	12-28 V DC
OPERATING TEMPERATURE	-20°C – +40°C

LiDAR SENSOR

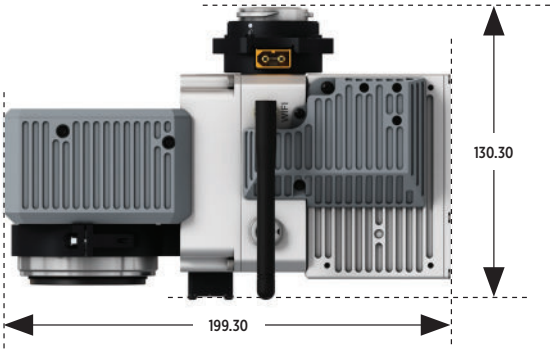
LASER PROPERTIES	905 nm Class 1 (eye safe)
DISTANCE RANDOM ERROR	1σ @ 20 m < 2 cm (80% Reflective)
RANGE MAX	190 m
RANGE ACCURACY	±2 cm
SCAN RATE	240,000 points/s (first or strongest return) 480,000 points/s (dual return) 720,000 points/s (triple return)
FIELD OF VIEW (H x V)	Non-repetitive scanning pattern: 70.4° × 77.2° Repetitive line scanning: 70.4° × 4.5°
MAX RETURNS SUPPORTED:	3
BEAM DIVERGENCE (H x V)	0.03° x 0.28°

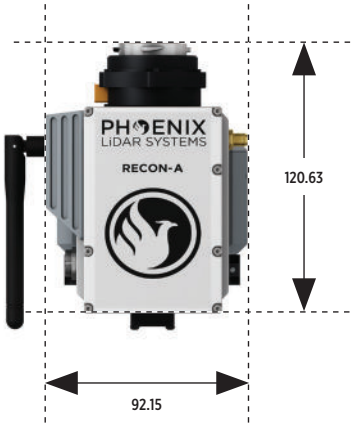
NAVIGATION SYSTEM

CONSTELLATION SUPPORT	GPS+GLONASS+BEIDOU+GALILEO
SUPPORT ALIGNMENT	Kinematic
OPERATION MODES	Post-processing only
POSITION ACCURACY	0.5 cm (PPK Estimated)
ATTITUDE ACCURACY	<0.01° Pitch & Roll; <0.05° Heading

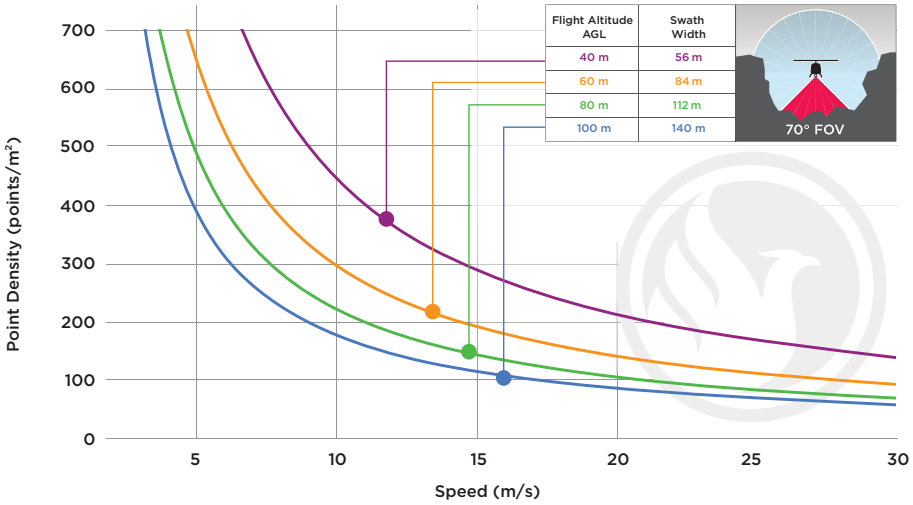
(1) Approximate values based on PLS test condition. (2) Using a 90° downward field of view. (3) Range of elevation values on flat surfaces with >20% reflectivity at the laser's wavelength.
(4) Expected RMSEz when following the PLS recommended acquisition & processing workflow and ASPRS check point guidelines.

RECON-A DIMENSIONS (mm)





POINT DENSITY RECON-A



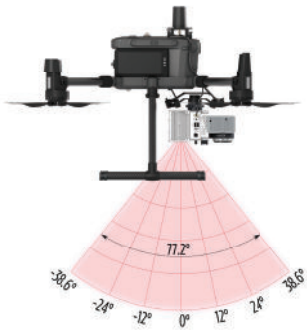
Flight AGL (m)	40	60	80	100
Speed (m/s)	Covered Area: 20% Flightline Overlap (ha/ac)			
6	48/120	73/179	97/239	121/299
10	81/199	121/299	161/399	202/498
Speed (m/s)	Covered Area: 50% Flightline Overlap (ha/ac)			
6	30/75	45/112	60/149	76/187
10	50/125	76/187	101/249	126/311
Imagery GSD	0.98 cm	1.46 cm	1.95 cm	2.44 cm
Swath Width	56 m	84 m	112 m	140 m

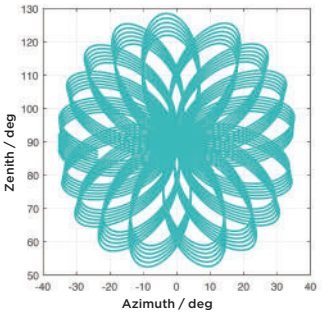
RECON-A FOV / SCAN PATTERN

The RECON-A comes equipped with two scanning modes:

NON-REPETITIVE PATTERN SCAN (70.4°)

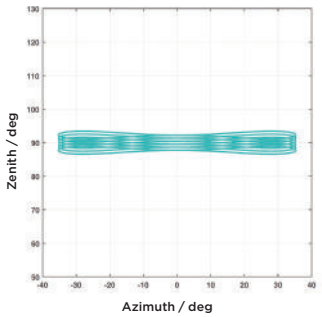
The non-repetitive scan mode increases the vertical FOV to 77.2°. This is the preferred mode when scanning structures such as power line towers.





REPETITIVE LINE SCAN (4.5°)

The repetitive scan pattern adjusts the vertical FOV to 4.5°. This is the preferred scan pattern for jobs that require the highest accuracy.



EXPLORE A PHOENIX LiDAR SYSTEM FOR YOUR TEAM, CONTACT US!

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