PHOENIX
LiDAR SYSTEMS

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RECON-XT/XT-A

VEHICLE SLAM UAV

The **RECON-XT** is the ultimate value, entry-level system for the DJI Matrice 350 and Freefly Systems Astro Max. A strong fit for smaller scan areas and teams on a budget. The **RECON-XT** is designed to grow and adapt with your business.

Flexibility in mounting options is a key benefit of this Phoenix system. The **RECON-XT** is designed to fly on the DJI M350 and Freefly Systems Astro Max (**RECON-XT-A**), and can also be adapted for vehicle and SLAM configurations.

FEATURES

- Ultralight LiDAR payload, designed for the M350 and Astro Max
- Flexible Mounting: Mount on a drone, vehicle, or even hand held
- Multi-Target Capacity—up to 2 target echoes per laser shot
- Fast and accurate measurement 640k shots/s, up to 1.28m points/s

QUICK SPECS

ABSOLUTE ACCURACY
2 - 5 cm RMSEz @ 80 m AGL (1) (2) (4)

INTRASWATH PRECISION
4.5 cm RMSDz @ 80 m AGL (1) (2) (3)

MAX DJI M350 FLIGHT TIME
33 Minutes

EXAMPLE ACQUISITIONS:

UAV

» 80 m AGL, 6 m/s, 90° FOV, 640 kHz
» Swath Width = 160 m
» Avg. Density = 165 points/m²
» Collection Rate = 3.45 km²/hr

APPLICATIONS

- UTILITIES MAPPING
- CONSTRUCTION SITE SURVEYING
- AGRICULTURE & FORESTRY MONITORING
- OPEN PIT MINING OPERATIONS
- STOCKPILE VOLUMETRICS
- GENERAL MAPPING

PLATFORM

OVERALL DIMENSIONS	20.7 x 11.7 x 15.7 cm
PAYLOAD WEIGHT	1.8 kg / 3.9 lbs
CAMERA FOV	70°
CAMERA RESOLUTION	24 MP
EXTERNAL STORAGE	256GB USB drive included
POWER CONSUMPTION	20W typical
OPERATING VOLTAGE	12 - 28 VDC
OPERATING TEMPERATURE	-20°C – +40°C

LiDAR SENSOR

LASER PROPERTIES	905 nm Class 1 (eye safe)
RANGE MAX	120 m
RMS RANGING ERROR	10 mm (Average within 0.5 ~ 70 m @ 50% reflectivity)
PULSE RATE	640 kHz points/s, up to 1.28M points/s dual return mode
FIELD OF VIEW	+15° -16° Vertical / 360° Horizontal
MULTIPLE ECHOES	2
NUMBER OF LASERS	32
BEAM DIVERGENCE	2.29 mrad / 1.52 mrad
LASER BEAM FOOTPRINT H X V	9 cm x 6 cm @ 40 m, 14 cm x 9 cm @ 60 m, 18 cm x 12 cm @ 80 m

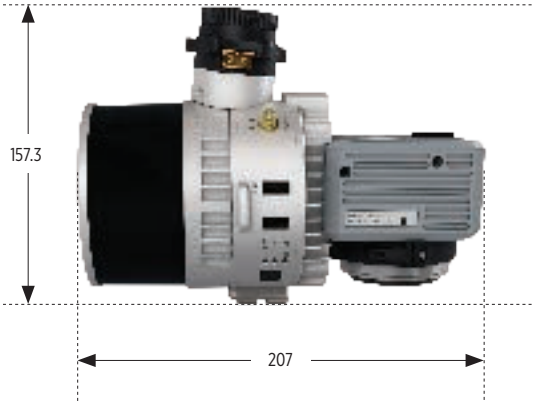
NAVIGATION SYSTEM

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

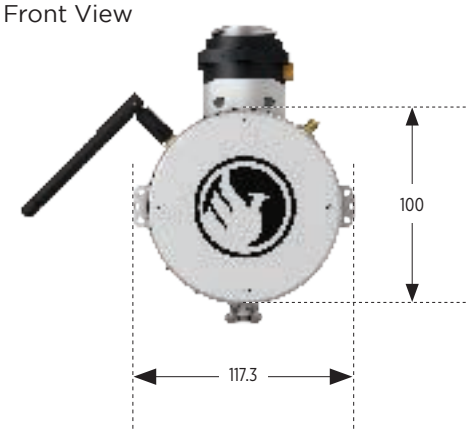
(1) Approximate values based on PLS test condition.
(2) Using a 90° downward field of view.
(3) Range of elevation values on flat surfaces with >20% reflectivity at the laser's wavelength.
(4) Expected RMSEz when following the PLS recommended acquisition & processing workflow and ASPRS check point guidelines.

RECON-XT/ XT-A DIMENSIONS (mm)

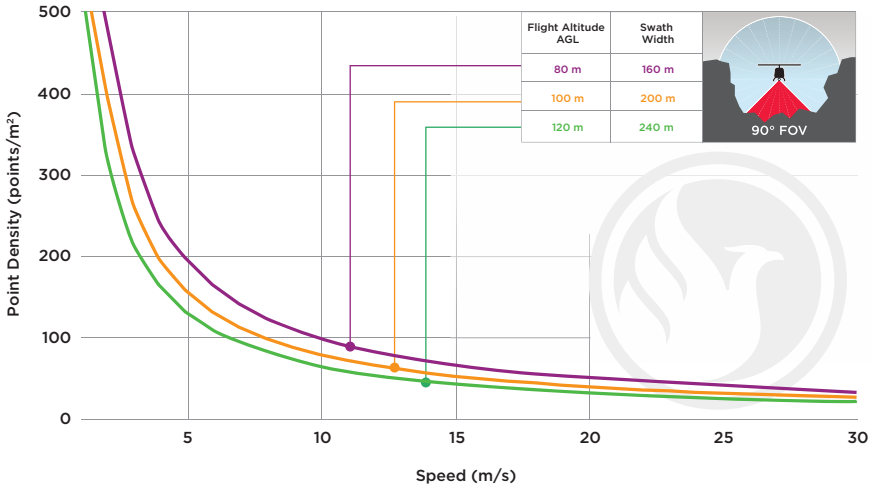
Side View



Front View



RECON-XT/ XT-A POINT DENSITY



Flight AGL	80	100	120
Speed (m/s)	**Covered Area: 20% Flightline Overlap (ha/ac)**		
6	138/342	173/427	207/512
10	230/569	288/712	346/854
Speed (m/s)	**Covered Area: 50% Flightline Overlap (ha/ac)**		
6	86/213	108/267	130/320
10	144/356	180/445	216/534
Swath Width	**160 m**	**200 m**	**240 m**

1) Assuming a 30 minute flight time 2) Using a 90° downward field of view

RECON-XT/ XT-A FIELD OF VIEW

HORIZONTAL FOV (106°)

VERTICAL FOV (31°)

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

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