PHOENIX LiDAR SYSTEMS

NEW PRODUCT

miniRanger-3 LITE

The **miniRanger-3 LITE** is designed to provide survey-grade LiDAR data and imagery (optional) on an ultra-lightweight platform. Packed with options, the **miniRanger-3 LITE** leverages Phoenix's years of experience and industry leading LiDARMill software platform to provide a seamless user experience. Optional mobile and backpack mounting options along with several imaging sensors provide the flexibility required to address every application. With the photogrammetry package, operators of mid-size multirotors, can now simultaneously acquire survey-grade LiDAR data and high resolution 61 MP photogrammetry at up to 100 m operating flight altitude.

MOUNTING OPTIONS

VEHICLE BACKPACK UAV

QUICK SPECS

Absolute Accuracy
20 / 30 mm RMSE @ 75 m Range

PP Attitude Heading RMS Error
0.018°

Weight
2.2 kg / 4.85 lbs

Dimensions
243 x 111 x 85 (mm)

Laser Range
290m @ 60% Reflectivity

Scan Rate
300k shots/s, up to 5 returns

APPLICATIONS

- » Oil & Gas Surveying
- » Utilities Mapping
- » Railway Track Mapping
- » Agriculture & Forestry Monitoring
- » Construction Site Surveying
- » Open Pit Mining Operations
- » General Mapping

FEATURES

- » 100 kHz, 200 kHz, and 300 kHz laser pulse repetition rate (PRR) for greater point density at altitude
- » Includes the new AIR NavBox for increased range & flexibility
- » Significantly lighter (37%) than miniRANGER providing increased range and flexibility
- » Modular and upgradable for maximum project flexibility, supporting single/dual RGB, multispectral, and panoramic cameras, as well as wheelsensor and SLAM options
- » Multiple IMUs supported to customize the product to your project needs
- » Automated boresighting, strip matching and project validation with LiDARMill

PLATFORM

OVERALL DIMENSIONS (SENSOR)	243 x 111 x 85 mm
OPERATING VOLTAGE	14 - 28 V DC
POWER CONSUMPTION	35 W typical
OPERATING TEMPERATURE	0° - 40° C
WEIGHT (INCLUDING AIR NAVBOX)	2.2 kg / 4.85 lbs

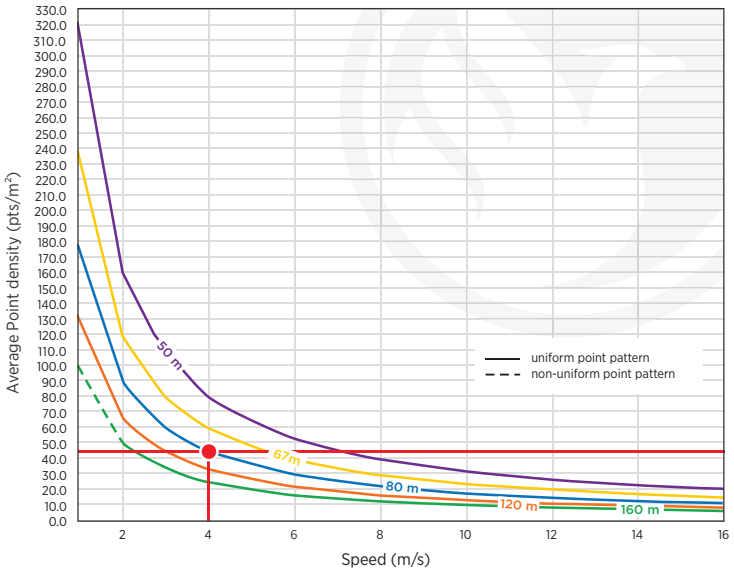
LiDAR SENSOR

LASER PROPERTIES	905nm Class 1 (eye safe)
RANGE MIN	2 m
MAX EFFECTIVE MEASUREMENT RATE	Up to 300,000 meas./sec
HORIZONTAL FIELD OF VIEW	360° at 100/200 kHz, 120° at 300 kHz
ACCURACY	15 mm
MAX MEASURING RANGE ρ 20% (ρ 60%)	170 m (290 m)
SENSOR CLASSIFICATION	IP64
WEIGHT	1.55 kg
POWER CONSUMPTION	18 W

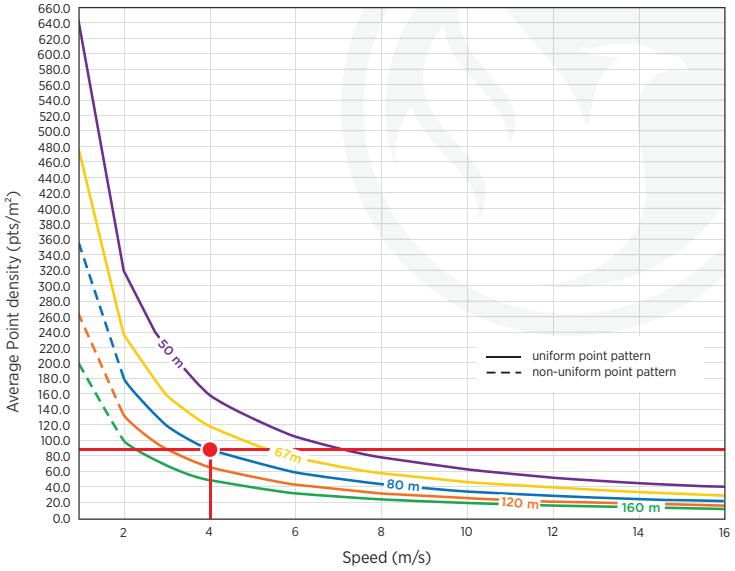
NAVIGATION SYSTEM

CONSTELLATION SUPPORT	GPS + GLONASS + BEIDOU + GALILEO
SUPPORT ALIGNMENT	Kinematic, Dual-Antenna
ACCURACY POSITION	1 cm + 1 ppm RMS horizontal
PP ATTITUDE HEADING RMS ERROR (IMU upgrades available)	0.018°

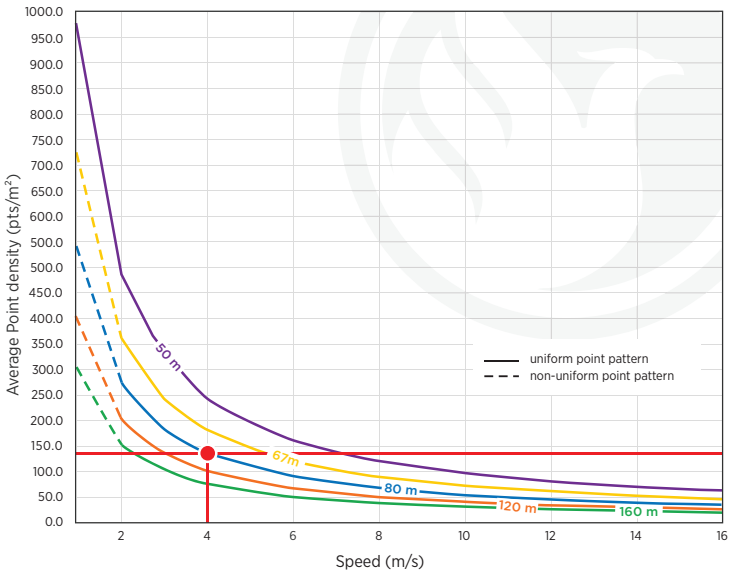
MAXIMUM MEASUREMENT RANGE VS. POINT DENSITY



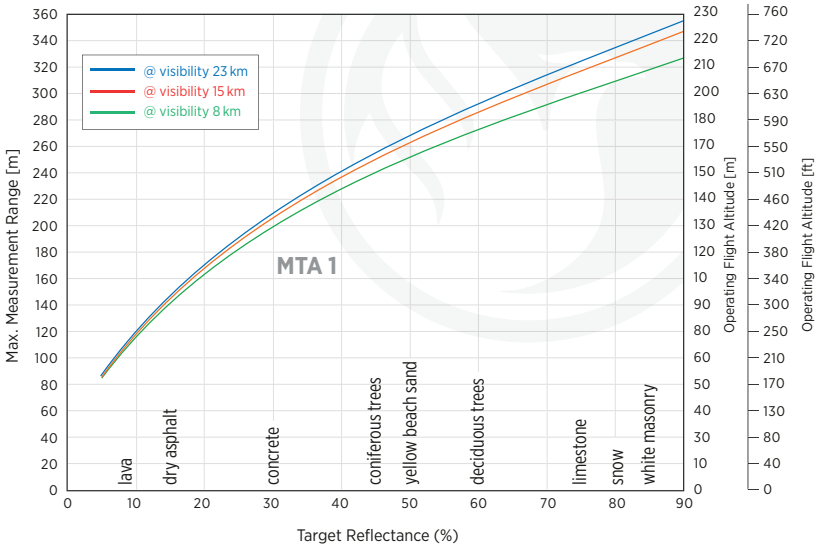
EXAMPLE	miniVUX-3UAV at 100,000 pulses/second, range to target = ~90 m, speed = 4m/s	RESULTING POINT DENSITY	45 pts/m²



EXAMPLE	miniVUX-3UAV at 2 00,000 pulses/second, range to target = ~90 m, speed = 4m/s	RESULTING POINT DENSITY	90 pts/m²



EXAMPLE	miniVUX-3UAV at 300,000 pulses/second, range to target = ~90 m, speed = 4m/s	RESULTING POINT DENSITY	135 pts/m²



The following conditions are assumed for the Operating Flight Altitude AGL:

- operating flight altitude given at a FOV of +/-45°
- target size ≥ laser footprint
- average ambient brightness

Source: RIEGL Laser Measurement Systems.

miniRanger-3 LITE CAMERA OPTIONS

Dual A6k-Lite

Single A6k-Lite

OTHER OPTIONS & ACCESSORIES AVAILABLE CONTACT SALES REP

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

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