PHOENIX LiDAR SYSTEMS

RANGER-LR LITE

The **RANGER-LR LITE** is the new lighter Long Range system configuration of our RANGER Series. Designed for the most demanding mapping applications, the **RANGER-LR LITE** is the ultimate combination of high density, long range LiDAR with a powerful 1,550 nm laser and up to 7 returns that penetrate dense vegetation at high speeds and altitudes in large scan regions. This system is available in UAV, vehicle, VTOL and backpack configurations, depending on your needs.

VTOL UAV VEHICLE BACKPACK

FEATURES

- Phase One camera can be separated from LiDAR for dedicated photogrammetry only mapping missions
- Survey-Grade (cm-level) accuracy with outstanding intensity calibration on high altitude and high speed missions Survey-grade (cm-level) accuracy
- Acquisition Upgrades: High-Res DSLR; RGB GigE Cam; thermal/hyperspectral/panoramic cameras, and more

QUICK SPECS

Absolute Accuracy
25-35 mm RMSE @ 150m Range

PP Attitude Heading RMS Error
0.019 / 0.074° IMU options

Weight
3.85kg / 8.5lbs.

Dimensions
32.9 x 16.3 x 17.9 (cm)

Laser Range
1350m @ 60% Reflectivity

Scan Rate
750k shots/s, up to 7 returns

APPLICATIONS

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

PLATFORM

OVERALL DIMENSIONS (Sensor)	32.9 x 16.3 x 17.9 (cm)
OPERATING VOLTAGE	12 - 28 V
POWER CONSUMPTION	90 W
OPERATING TEMPERATURE	-10° - +40° C
WEIGHT (incl. Nav Box)	3.85kg

LIDAR SENSOR

LASER PROPERTIES	1550nm Class 1 (eye safe)
RANGE MIN	5m
MAX EFFECTIVE MEASUREMENT RATE	750,000 meas./s
HORIZONTAL FIELD OF VIEW	360°
ACCURACY	15mm one Signma @ 150m
SENSOR CLASSIFICATION	IP64
WEIGHT	3.25kg w/o fan
POWER CONSUMPTION	90W

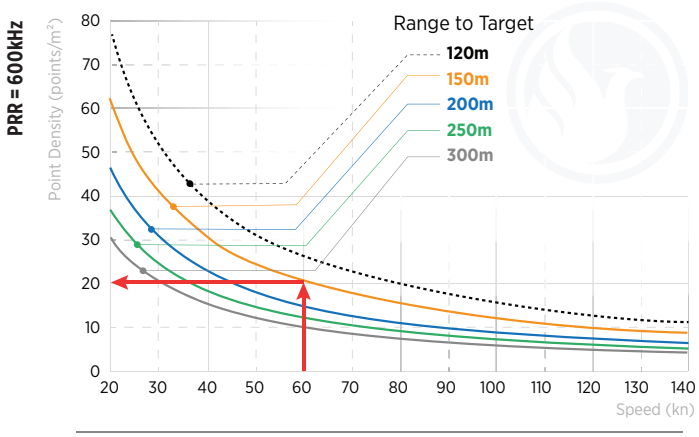
NAVIGATION SYSTEM

CONSTELLATION SUPPORT	GPS + GLONASS + BEIDOU + GALILEO
SUPPORT ALIGNMENT	Kinematic, Single-Antenna
OPERATION MODES	Real-time, Postprocessing optional
ACCURACY POSITION	1 cm + 1 ppm RMS horizontal
PP ATTITUDE HEADING RMS ERROR	0.007 / 0.009° IMU options

CAMERA

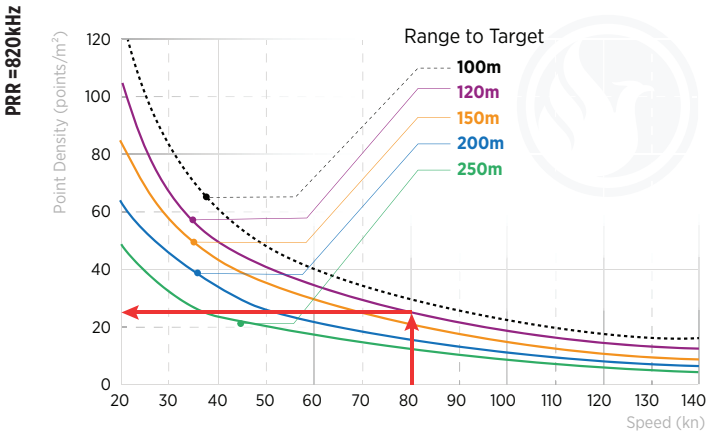
RESOLUTION	100MP, 11,664 x 8,750 PIXELS
WEIGHT (with 35mm Lens)	1.17kg
DIMENSIONS (with 35mm Lens)	9 x 9 x 14.6 (cm)
GSD @ 120m	1.29cm (Horizontal Swath: 151m)
OPTIONAL LENS	80MM f/5.6 (0.47 kg)

MAX MEASUREMENT RANGE & POINT DENSITY RANGER-LR LITE



EXAMPLE
Ranger-LR at 600k pulses/sec
Range to target = 150 m, speed 60 kn

Resulting Point Density **21 pts/m²**



EXAMPLE
Ranger-LR at 820k pulses/sec
Range to target = 120 m, speed 80 kn

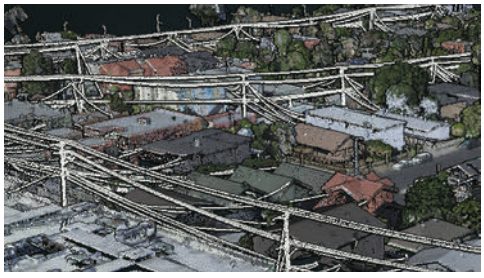
Resulting Point Density **26 pts/m²**

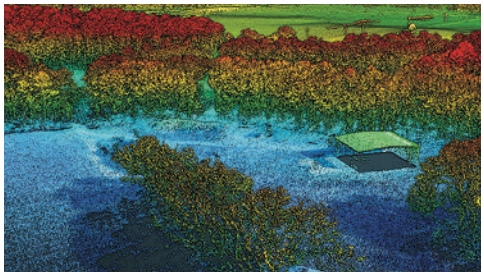
The following conditions are assumed for the Operating Flight Altitude AGL

- ambiguity resolved by multiple-time-around (MTA) processing and flight planning
- target size ≥ laser footprint
- average ambient brightness
- operating flight altitude given at a FOV of +/-45°

Source: RIEGL Laser Measurement Systems.

RANGER-LR POINTCLOUDS





PHOENIX SOFTWARE SUITE INCLUDED

PLS Software Suite

Phoenix LiDAR Systems provides a proprietary complete software suite for streamlined, mission planning, acquisition, georeferencing, data fusion & export.

Explore the effects that different parameters have on your data before you fly. Estimate your data quality and reduce costs by experimenting with various flight paths, altitudes, and other variables using the **Phoenix Flight Planner.**

Streamline your LiDAR acquisition, georeferencing, data fusion and exporting with: **PLS Spatial Explorer** to enable in-field QA/QC and cut down wait-time on extensive photogrammetry applications by creating colorized point clouds; & **PLS Spatial Lighthouse** to stream real-time corrections for RTK trajectories and in-flight QA/QC.

SAVE TIME, GROW YOUR BUSINESS

LiDARMill.com

Automated Post-Processing in the Cloud

Meet **LiDARMill**, the first cloud-based LiDAR post-processing platform that enables surveying teams to take advantage of precision laser mapping without investing in expensive post-processing software and training.

Processing your LiDAR data in the cloud has never been easier. View your data, track project status, and invite clients to view point clouds – all from your LiDARMill dashboard with faster turnaround times and lower overhead costs.

LiDARMill can be customized to serve any size organization, from small survey teams to government departments with heavy post-processing requirements. Contact sales@phoenixlidar.com for pricing and packages.

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

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