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.

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

PLATFOR

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


MINIMUM MEASUREMENT RANGE VS. POINT DENSITY

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

minVRUX-3UV at 200,000 pulses/second, range to target = ~90 m, speed = 4m/s
RESULTING POINT DENSITY: 90 pts/m²

minVRUX-3UV 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


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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