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RANGER FLEX DUAL MOBILE SYSTEM RFM2-UAV²²

The dual scanner mobile accessory kit elevates the capabilities of our **RANGER-UAV²² FLEX** single scanner system by converting it into a high-performance dual scanner mobile solution, finely tuned to meet the high standards of demanding survey-grade mapping applications. The physical arrangement of the dual scanners is strategically designed to deliver substantial time savings on-site while ensuring comprehensive point coverage, achieving a remarkable speed of up to 2.4 million measurements per second. The **RANGER-UAV²² FLEX** as well as the dual scanner mobile accessory were designed with flexibility in mind. Our standalone **RANGER-UAV²² FLEX** payload acts as the central control unit within our dual scanner mobile accessory and when detached, becomes a versatile tool for backpack and UAV applications, adding another layer of adaptability to your toolkit.

FEATURES

- Quick release scanner and camera system will return to zero without recalibration
- Quick release dual scanner base for storage
- Optional quick release 360° LadyBug 5+ or LadyBug 6 Camera with integrated SLAM Assist Hesai XT32 scanner and GNSS Antenna
- Optional DMI sensor
- High-Precision IMU upgrade available

QUICK SPECS

INTRASWATH PRECISION ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾
2.0 cm RMSDz @ 120 m

EXAMPLE ACQUISITIONS:

MOBILE

- » Pulse Rate = 2400 kHz
- » Field of View = 360°
- » Point Density = 3400 points/m²
@ 10 m range to target
- » Collection Rate = 40 km/h (25 mph)

PAYLOAD

OVERALL DIMENSIONS (L x W x H) (cm)	Removable Dual Head Unit: 43.2 x 53.3 x 22.8 Roof Rack: 128 x 28.5 x 12 360° Cam: 97 x 20 x 20
POWER CONSUMPTION	160 W typical 180 W typical (with 360° Camera & SLAM Assist)
WEIGHT	Removable Dual Head: 17.4 kg / 38.4 lbs Roof Rack: 20 kg / 45 lbs 360° Cam: 8 kg / 17.5 lbs
OPERATING VOLTAGE	14 - 28 VDC
OPERATING TEMPERATURE	0° - 40° C / 32° - 104° F

LiDAR SENSOR

Source: RIEGL Laser Measurement Systems.
Specifications given per scanner.

LASER WAVELENGTH	1550 nm
RANGE MIN	1.5 m at ≥1 MHz PRR
RANGE MAX	755 m at 20% reflectivity, 50 kHz PRR
PULSE REPETITION FREQUENCY	Up to 1200 kHz
SCAN SPEED	10 - 200 lines/second
MAX RETURN COUNT	15
BEAM COUNT	1 facet rotating mirror
BEAM DIVERGENCE	0.35 mrad @ 1/e
HORIZONTAL FIELD OF VIEW	360°
LASER ACCURACY	10 mm One sigma @ 150 m
LASER SAFETY	CLASS 1

NAVIGATION SYSTEM

CONSTELLATION SUPPORT	GPS + GLONASS + BEIDOU + GALILEO
SUPPORT ALIGNMENT	Static, Kinematic, Dual-Antenna
OPERATION MODES	Real-time, Post-Processed
ACCURACY POSITION	1 cm + 1 ppm GNSS baseline RMS horizontal
ACCURACY ATTITUDE ⁽⁵⁾	ROLL, PITCH: 0.002° RMS HEADING: 0.007° RMS

(1) Approximate values based on PLS test methods described at <https://docs.phoenixlidar.com/accuracy-standards-and-quantification>.






(2) Using a 90° max downward field of view.

(3) Based on a single scanner UAV test flight.

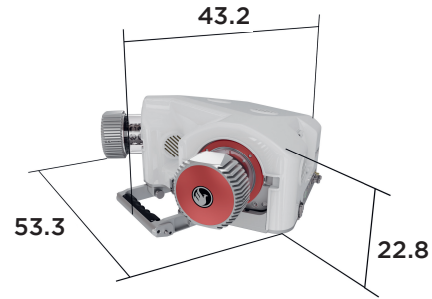
(4) Flat surfaces with >20% reflectivity at the laser's wavelength.

(5) Estimated post-processed accuracy with IMU-30.

APPLICATIONS

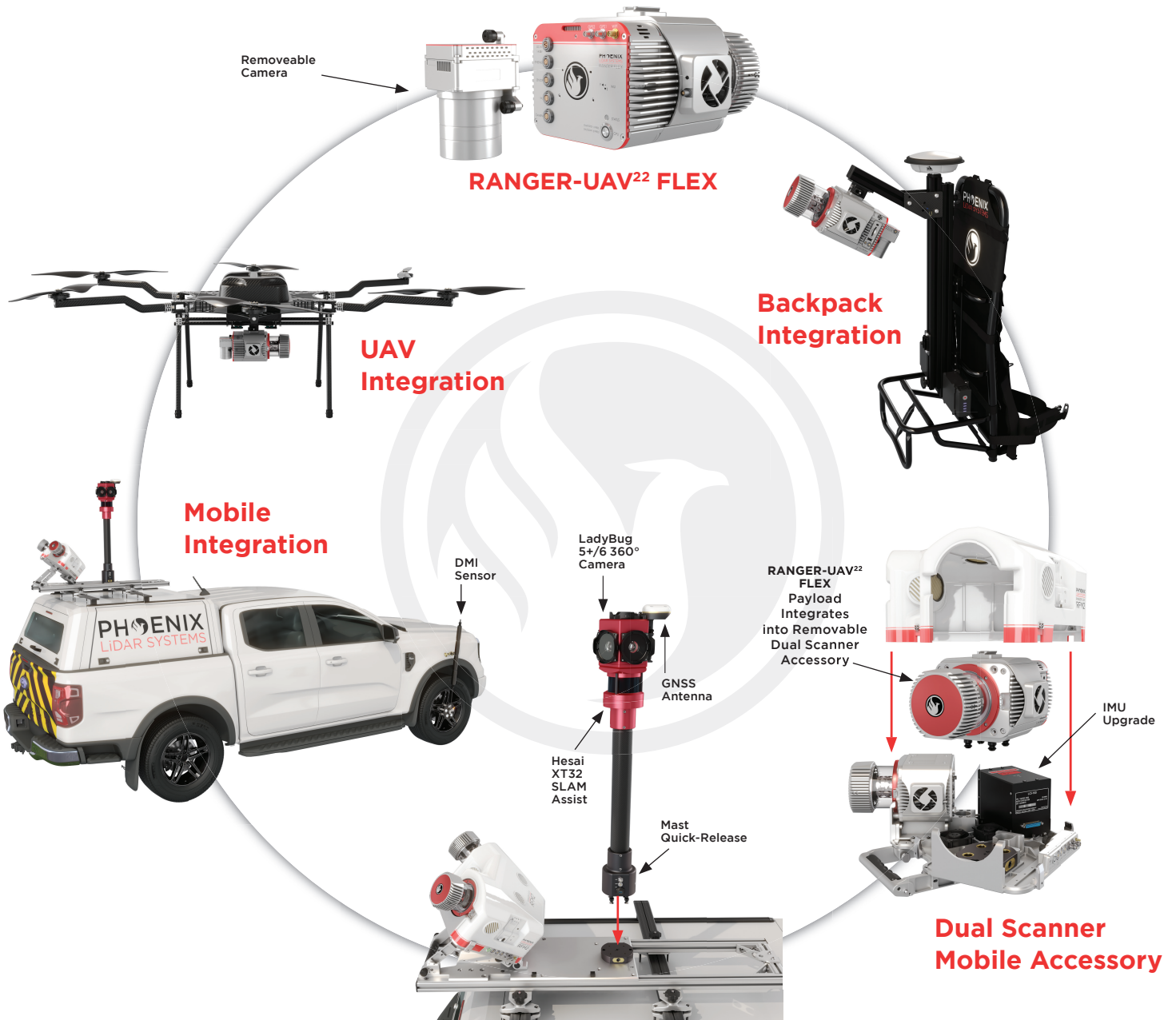
-  TRANSPORTATION INFRASTRUCTURE MAPPING
-  ROAD SURFACE INSPECTION
-  OPEN-PIT MINING
-  RAILWAY TRACK MAPPING
-  CONSTRUCTION SITE SURVEYING

DIMENSIONS (cm)



SETUP & FLEXIBILITY

Additional accessories such as a LadyBug 360° Camera with integrated SLAM Assist LiDAR, DMI sensor, and high-precision IMU upgrade option empower our dual scanner accessory as a formidable tool capable of simplifying your workflow and substantially boosting your mapping efficiency.



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

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