



HydroRANGER

The HydroRANGER is an evolution of mapping technology. This Airborne Topo-Bathymetric (ATB) system provides dual purpose topographic and bathymetric measurements for full scene mapping of shoreline systems. Utilizing a visible green spectrum laser with an elliptical scan pattern and measurement rates up to 200 kHz, the HydroRANGER provides a combination of high spatial resolution and spatial accuracy. Capable of reaching beyond 2 Secchi depths, this is the ideal solution for mapping land-water interface environments along rivers, reservoirs, oceans and more!

FEATURES

- » Green light laser (532 nm) with online waveform processing for topographic, water surface and subsurface target mapping
- » Elliptical scan pattern provides a +/- 20 degree horizontal FOV for low angle of incident measurements
- » High quality 24 MP camera enables RGB colorization and orthophotography
- » Configurable beam divergence and receiver FOV for low AGL missions

QUICK SPECS

Water Depth Penetration
2.0 Secchi Depths @ 50 kHz

PP Attitude Heading RMS Error
0.01° IMU options

Weight
13 kg / 28.7 lbs approx.

Dimensions
432 x 337 x 202 mm (L x W x H)

Scan Rate
200,000 shots/second, up to 15 returns

LiDAR SENSOR

LASER PROPERTIES	532 nm
NOHD ⁽¹⁾	15 m
ENOHD ⁽¹⁾	75 m
RANGE MIN	20 m
SCAN PATTERN	nearly elliptical
OFF NADIR SCAN ANGLE	± 20° = 40° perpendicular to flight direction ± 14° = 28° in flight direction
HORIZONTAL FIELD OF VIEW	40°
ACCURACY	20 mm
PRECISION	15 m
SENSOR CLASSIFICATION	IP64, dust and splash-proof
WEIGHT	12 kg
POWER CONSUMPTION	110 W typical (220 W max)

(1) 6 mrad beam divergence, 50 kHz, from a moving platform

NAVIGATION SYSTEM

CONSTELLATION SUPPORT	GPS + GLONASS + BEIDOU + GALILEO
SUPPORT ALIGNMENT	Static, Kinematic, Dual-Antenna
OPERATION MODES	Real-time, Post-processing optional
ACCURACY POSITION	1 cm + 1 ppm RMS horizontal
PP ATTITUDE HEADING RMS ERROR	0.01° IMU options

PLATFORM

OVERALL DIMENSIONS (with AIR NavBox)	(with Heli Vibration Isolator) 476 x 440 x 380 mm <hr/> (without Heli Vibration Isolator) 432 x 337 x 202 mm
OPERATING VOLTAGE	18 - 28 V DC
POWER CONSUMPTION	122 W (typical) 232 W (max)
OPERATING TEMPERATURE	-10°C up to +40°C
WEIGHT	(with Heli Vibration Isolator) 21 kg / 46.3 lbs approx. <hr/> (without Heli Vibration Isolator) 13 kg / 28.7 lbs approx.