Optech

PEGASUS HA500

Summary Specification Sheet

HIGH DENSITY at HIGH ALTITUDE

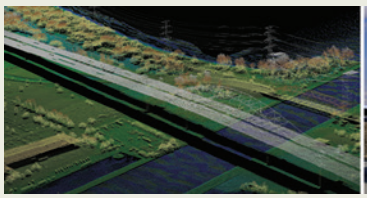
Applications

- Wide-Area Mapping
- Urban Modeling
- Natural Resources
- Disaster Management

High-performance, dual-laser airborne lidar sensor for high-altitude, **wide-area survey** applications

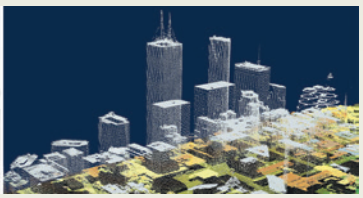
The Pegasus HA500 lidar survey system is the world's first dual-laser lidar system with an embedded medium-format camera designed specifically for maximum collection efficiency and high point density at high altitude. The HA500 excels at wide-area and urban mapping initiatives and boasts the same industry-leading measurement precision as the ALTM Orion systems to provide the highest quality data sets possible. Incorporating the latest in Optech innovation, Pegasus HA500 includes real-time XYZ point display capability and roll compensation for in-air collection confidence, and many other productivity-enhancing features.

When efficiency and productivity matter, look no further than the Pegasus HA500.



Resource Management

Wide-Area Surveys



Urban Mapping

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The ALTM Pegasus Advantage

Pegasus is ideally suited for applications that require maximum collection efficiency in a wide FOV design, while maintaining enhanced target detail

- Dual output laser system for maximum density capability
- High laser sampling rate for enhanced efficiency in XY point distribution
- Extended operating envelope
- “Drop-in” sensor design for unrestricted use of advertised FOV in deep portal installations
- High accuracy and precision independent of pulse rate
- The latest in tightly-coupled inertial and Virtual Reference System processing technology, enabling steep turns, extended GPS baselines, and the elimination of remote base stations
- Powerful Optech LMS lidar pre-processing software with automated lidar rectification
- Real-time point display and in-air LAS file generator for true coverage verification

Parameter	Specification
Operational envelope (1,2,3,4)	150-5000 m AGL, nominal
Effective laser repetition rate	Programmable, 100-500 kHz
Laser wavelength	1064 nm
Elevation accuracy (2,3)	<5-20 cm, 1 σ
Horizontal accuracy (2,3)	1/7500 x altitude, 1 σ
Position and orientation system	POS AV™ AP50 (OEM)
Scan width (FOV)	Programmable, 0-75°
Scan frequency (5)	Programmable, 0-140 Hz (effective)
Sensor scan product	800 maximum
Beam divergence	0.25 mrad (1/e)
Roll compensation	Programmable, ±37° (FOV dependent)
Vertical target separation distance	<0.7 m
Range capture	Up to 4 range measurements, including 1st, 2nd, 3rd, and last returns
Intensity capture	Up to 4 intensity returns for each pulse, including last (12 bit)
Image capture	5 MP interline camera (standard); 60 MP full frame (optional)
Full waveform capture	12-bit Optech IWD-2 Intelligent Waveform Recorder (optional)
Data storage	Removable solid state drive SSD (SATA II)
Power requirements	28 V, 800 W, 30 A
Dimensions and weight	Sensor: 630 x 540 x 450 mm; 65 kg Control rack: 650 x 590 x 490 mm; 46 kg
Operating temperature	-10°C to +35°C
Relative humidity	0-95% non-condensing

1 Target reflectivity ≥20%
2 Dependent on selected operational parameters using nominal FOV of up to 40° in standard atmospheric conditions with 23 km visibility
3 Angle of incidence ≤20°
4 Target size ≥ laser footprint
5 Dependent on system configuration

US FDA 21 CFR 1040.10 and 1040.11; IEC/EN 60825-1