

Survey-Grade Geospatial Data

The Optech Lynx HS300 mobile survey system delivers best data quality in the industry. It is the best solution on the market for surveying and engineering projects where accuracy, precision and overall cost-effectiveness are paramount.

Available in two configurations, the dual-head Lynx HS300-D and the single-head Lynx HS300-S, the Lynx lets you select the most suitable model suitable for your business, whether you are looking for greater efficiency or want a more compact and lower-cost solution. The **Lynx HS300-D** configuration is built to maximize accuracy and efficiency on design survey projects, and its multiple-perspective lidar coverage minimizes shadows, significantly increasing data collection efficiency and quality. The **Lynx HS300-S** is a lighter-weight, lower-cost model that is fully upgradeable to the dual-head configuration so that you can maximize data collection efficiency as your business expands while protecting your initial investment.

Part of the Lynx HS (High Speed) series, the long range Optech Lynx HS300 is equipped with high-speed scanner, already industry leader (20% higher than its closest competitor), with 300 lines/s per sensor. Boasting a measurement rate of 800 kHz per sensor, a 360° unobstructed lidar field of view, a best-in-class POS (Position and Orientation System) and a 360° FLIR Ladybug® imaging system, the Lynx HS300 raises the bar for mobile surveying.



Lynx HS300 Mobile Survey System™

Premium hardware performance is half of the equation. To ensure maximum return on investment and cost efficiencies, the Lynx HS300 is bundled with a comprehensive software workflow that incorporates Optech LMS Pro Lidar Mapping Suite. LMS Pro exists for a single purpose: To maximize the accuracy of collected data while minimizing the cost (in time, dollars and complexity) associated with achieving those results for high-volume production projects. As a result, LMS Pro has been designed with speed and automation as a foundation. LMS Pro's lidar rectification process, based on over a decade of research and development, is a breakthrough for

both airborne and mobile surveying. Using complex optical and mathematical models, LMS Pro rectifies lidar data files with an accuracy and quality level that require no further refinement—thereby minimizing processing time and maximizing efficiency.

With superior hardware performance and a ground-breaking data processing solution, the Lynx HS300 ensures that even your most challenging projects are delivered on time and on spec.



APPLICATIONS

- » Corridor surveys
- » Design engineering
- » Rail surveys
- » Utilities mapping



FEATURES

- » Industry-leading lidar data quality
- » High scanner speed and point density

- » System parameters configurable for specific applications while still managing data volume
- » LMS lidar rectification for automated adjustments to data
- » LMS workflow designed for high-volume production processing

- » Automated boresighting for simplified project operations
- » Integrated Ladybug 360° camera
- » Real-time LAS file output for in-field coverage checks and rapid access to the survey data



Lynx HS300 Mobile Survey System™

The Lynx HS300 Advantage

Overall Lidar Performance

The overall Lynx HS300 lidar solution represents the apex in lidar design and performance. The Lynx HS300 is available in two configurations: The dual-head **Lynx HS300-D** and the single-head **Lynx HS300-S**.

Integrated Camera Solution

The FLIR Ladybug camera delivers high-resolution 360° imagery with images calibrated and boresighted by Optech LMS in a simple, tightly integrated workflow. The system also facilitates the addition of auxiliary sensors by making navigation data available.

Modular System

The Lynx HS300's modular design facilitates in-field service, reduces down time, greatly simplifies system mounting and lowers shipping costs.

Complete Software Workflow Solution

Optech Lynx Survey and LMS Pro are a complete software solution with best-in-class planning, execution, and lidar / camera data post-processing. Full compatibility with Orbit GT, TopoDOT and other leading software lets you import imagery, lidar data and trajectories to generate deliverables seamlessly for environments like ArcGIS, MicroStation and AutoCAD.

Overall Data Accuracy

Superior sensor performance and automated lidar rectification with LMS Pro generate data accuracies that meet or exceed the requirements of the most difficult projects.

Optech LMS Pro

- Automated lidar rectification algorithms to improve the results of mobile and airborne surveys
- Optional ground control input to lidar rectification algorithms for automated control adjustments
- Automated boresight: Calibration/boresight routines do not require specialized survey regimes
- Batch processing for large, multi-site projects

User-Selectable Scanner Speed

The Lynx HS300 offers programmable scanner speeds up to 300 Hz per sensor. The resolution of the resulting lidar point cloud is a function of the measurement rate, vehicle speed and scanner speed. With the industry's best measurement rates and scanner speeds, the Lynx HS300 provides up to a 20% increase in data resolution at 100 km/h over its closest competitor.

Real-Time Data Quality Monitoring

- View lidar/image data in real time for immediate QA/QC
- Monitor GNSS/INS quality in real time
- Output LAS files in real time for quick in-field coverage checks

Parameter	Lynx HS300-D	Lynx HS300-S
Number of lidar sensors	2	1
Camera support	Integrated FLIR Ladybug® camera	Integrated FLIR Ladybug® camera
Timestamp for additional camera/sensor ¹	Yes	Yes
Maximum range ²	250 m @ 10% reflectivity ³	250 m @ 10% reflectivity ⁴
Range precision ⁵	5 mm, 1 σ	5 mm, 1 σ
Absolute accuracy ⁶	Better than ± 2 cm, 1 σ	Better than ± 2 cm, 1 σ
Laser measurement rate	150 - 1600 kHz, programmable (150; 400; 800; 1200; 1600 kHz)	75 - 800 kHz, programmable (75; 200; 400; 600; 800 kHz)
Measurements per laser pulse	Up to 4 simultaneous	Up to 4 simultaneous
Scan frequency	Up to 600 lines/sec, programmable (10-Hz intervals per sensor) ⁷	Up to 300 lines/sec, programmable (10-Hz intervals per sensor)
Scanner field of view	360° without obscurations	360° without obscurations
Operating temperature	-10°C to +40°C (extended range available)	-10°C to +40°C (extended range available)
Storage temperature	-40°C to +60°C	-40°C to +60°C
Relative humidity	0-95% non-condensing	0-95% non-condensing
Laser classification	IEC/CDRH Class 1 eye-safe	IEC/CDRH Class 1 eye-safe
Vehicle	Fully adaptable to any vehicle	Fully adaptable to any vehicle

1. Customer can add additional sensors and use existing POS output.
 2. Slant range from sensor.
 3. Associated with 160-lines/sec and 150-kHz sensor settings.
 Based on ideal conditions. Contact Teledyne Optech for details.
 4. Associated with 80 lines/sec and 75-kHz sensor settings.
 Based on ideal conditions. Contact Teledyne Optech for details.
 5. Under test conditions. Contact Teledyne Optech for details.

6. Assumes good GPS data (PDOP <4), 10-m range, using a post-processed GPS trajectory and LMS-Pro to adjust the data using control points. Performance will degrade in the event of poor or lost GPS. For more details, please contact Teledyne Optech.
 7. Up to 300 lines/sec per lidar sensor.

* Simulated data — illustration purpose only