Leica HDS6100

Latest generation of ultra-high speed laser scanner

- when it has to be **right**

Leica Geosystems

Leica HDS6100

Compact, next-generation, ultra-high speed laser scanner

The Leica HDS6100 unlocks the full potential of ultra-high speed, "phase-based" laser scanning technology for fast, productive as-built surveys. "Next-generation" advances in portability, phase-based range, data quality, temperature capabilities and tilt sensor integration all combine to deliver significantly lower project costs. The Leica HDS6100 lets users profit from the inherent speed advantage of phase-based scanners for a wider range of as-built and site surveys.

Leica HDS6100: The "next-generation" phase-based scanner

Longer Useful Range, Better Quality Data

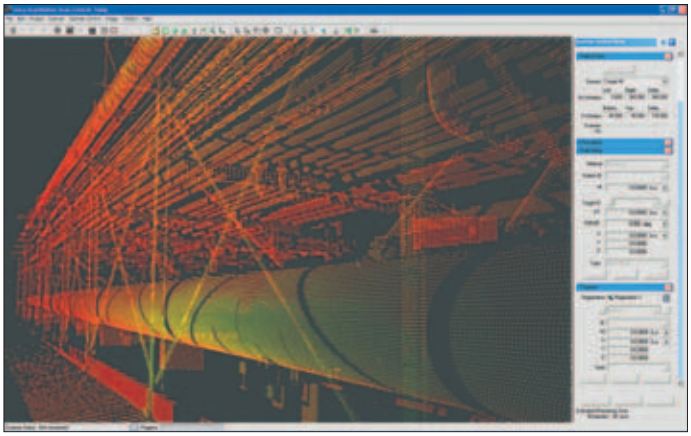
The useful range of phase-based scanning has been stretched and data quality improved. This provides productivity benefits, while also expanding the types of projects where phase-based scanning can be used, such as capturing multi-story building facades.

Several advanced features and enhancements in the Leica HDS6100 contribute to its increased useful range:

- **Longer ambiguity interval –** laser returns up to 79 m away can be uniquely analyzed and calculated
- **Higher scan density –** maximum scan density has been doubled, increasing the range at which smaller objects and targets can be accurately modeled
- **Higher sensitivity –** the Leica HDS6100 can better detect laser returns from dark surfaces, oblique surfaces, and surfaces further from the instrument
- **Higher accuracy –** improvements in both distance and angle accuracy have extended the range at which scan data meet project accuracy requirements
- **Less noise –** major reductions in scan data noise allow more objects to be accurately modeled to meet a project's precision requirements

Fully Integrated for Faster Set-ups

A major breakthrough in the Leica HDS6100 is its full integration: scanner, controller, data storage and battery in a single instrument. Setting up and moving the scanner is fast and easy. Users can operate the scanner from a simple, side touch panel. An optional PDA or laptop with Leica Cyclone SCAN software provide added scanner control and valuable field QA. Wireless LAN (WLAN) is also fully integrated.



Versatile Leica Cyclone Software

Cyclone SCAN is the only software that controls both ultra-high speed, phase-based laser scanners and versatile, pulsed laser scanners (Leica ScanStation 2, Leica ScanStation, Leica HDS3000, etc). Leica Cyclone REGISTER lets users benefit from rigorous, target-based registration and efficient, target-less "cloud-to-cloud" registration, especially effective in plant applications.

Fewer Setups and Targets

The Leica HDS6100's full, 360° x 310° field-of-view (FOV) and extended range can translate directly into fewer instrument setups and scan targets that need to be placed, scanned, and surveyed. A built-in, dual-axis (tilt) sensor offers similar potential. If indicated tilt (or level) changes are nil or insignificant, then users can apply Leica Cyclone SCAN software's resection, backsighting, and traverse workflows to further reduce the number of targets needed.

Integrated battery and data storage
Unmatched portability

Ultra-high speed scanning
Reduces time needed for scanning

Built-in control panel
Easy, standalone use without laptop or PDA

Integrated dual-axis (tilt) sensor
Better QA plus efficient traverse workflows that require fewer scan targets

Key Leica HDS6100 Performance Specifications			
Instrument type	Compact, phase-based, dual-axis sensing, ultra-high speed laser scanner, with survey-grade accuracy and full field-of-view		
User interface	Onboard touch panel, or external notebook or Tablet PC, or PDA		
Data storage	Integrated hard drive		
Accuracy of single measurement	Position	5 mm, 1 m to 25 m range; 9 mm to 50 m range	
	Distance	≤2 mm at 90% albedo up to 25 m; ≤3 mm at 18% albedo up to 25 m	
		≤3 mm at 90% albedo up to 50 m; ≤5 mm at 18% albedo up to 50 m	
	Angle (Horizontal/vertical)	125 µrads/125 µrads (7.9 mgon/7.9 mgon) one sigma	
Spot size	3 mm at exit (based on Gaussian definition) + 0.22 mrad divergence; 8 mm @25 m; 14 mm @50 m;		
Modeled surface precision/noise**	1 mm at 25 m; 2 mm at 50 m, for 90% albedo; one sigma		
	2 mm at 25 m; 4 mm at 50 m, for 18% albedo; one sigma		
Target acquisition*	2 mm std. deviation		
Dual-axis sensor	Selectable on/off; Resolution 3.6"		
Laser scanning system	Range	79 m ambiguity interval	
		79 m @90%; 50 m @18% albedo	
	Scan Rate	Up to 508,000 points/sec, maximum instantaneous rate	
	Scan density	**@10 m**	**@50 m**
	"Preview"	50.6 x 50.6 mm	250 x 250 mm
	Middle (4x)	12.6 x 12.6 mm	62 x 62 mm
	High (8x)	6.3 x 6.3 mm	31.4 x 31.4 mm
	Super High (16x)	3.1 x 3.1 mm	15.8 x 15.8 mm
	Ultra High (32x)	1.6 x 1.6 mm	7.9 x 7.9 mm
Laser Class	3R (IEC 60825-1)		
Lighting	Fully operational between bright sunlight and complete darkness		
Power supply	24 V DC; integrated Li-ion battery (2.5 hrs) and/or optional external DC power supply (4 hrs) or AC supply		
Power consumption	65 W max.		
Temperature	Operation: -10° C to +45° C; Storage: -20° C to +50° C		

All specifications are subject to change without notice
All +/- accuracy specifications are one sigma unless otherwise noted
** One sigma; subject to modeling methodology for modeled surface
*** Algorithmic fit to planar HDS gray & white targets

Whether you're designing a modification to a complex refinery piping system, surveying a site or documenting a historic building, you need reliable measurements. High-Definition Surveying™ scanning systems and software by Leica Geosystems provide you with exact data of what's there.

When your as-built information has to be right, rely on Leica Geosystems, the company that professionals trust for their scanning solutions. Leica Geosystems is best known for pioneering scanning technology with trustworthy, total solutions: versatile, accurate laser scanners, industry standard point cloud software, and a full complement of accessories, training and support.

Precision, quality and service from Leica Geosystems.

When it has to be right.

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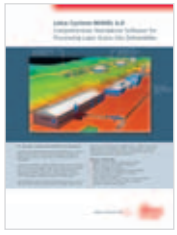
Laser class 3R in accordance with IEC 60825-1 resp. EN 60825-1

Leica HDS6100
Product information and specifications

Leica ScanStation 2
Product information and specifications

Leica Cyclone 6.0 SCAN
Product information



Leica Cyclone 6.0 MODEL
Product information

Leica Cyclone 6.0 REGISTER
Product information

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