

Leica HDS4400

Complete Laser Scanning System
for Mine Surveying



- when it has to be **right**

Leica
Geosystems

Leica HDS4400 Mine Scanning System

Laser scanner, Software and Support for Mine Surveying
... from the Global Leader in Laser Scanning Solutions

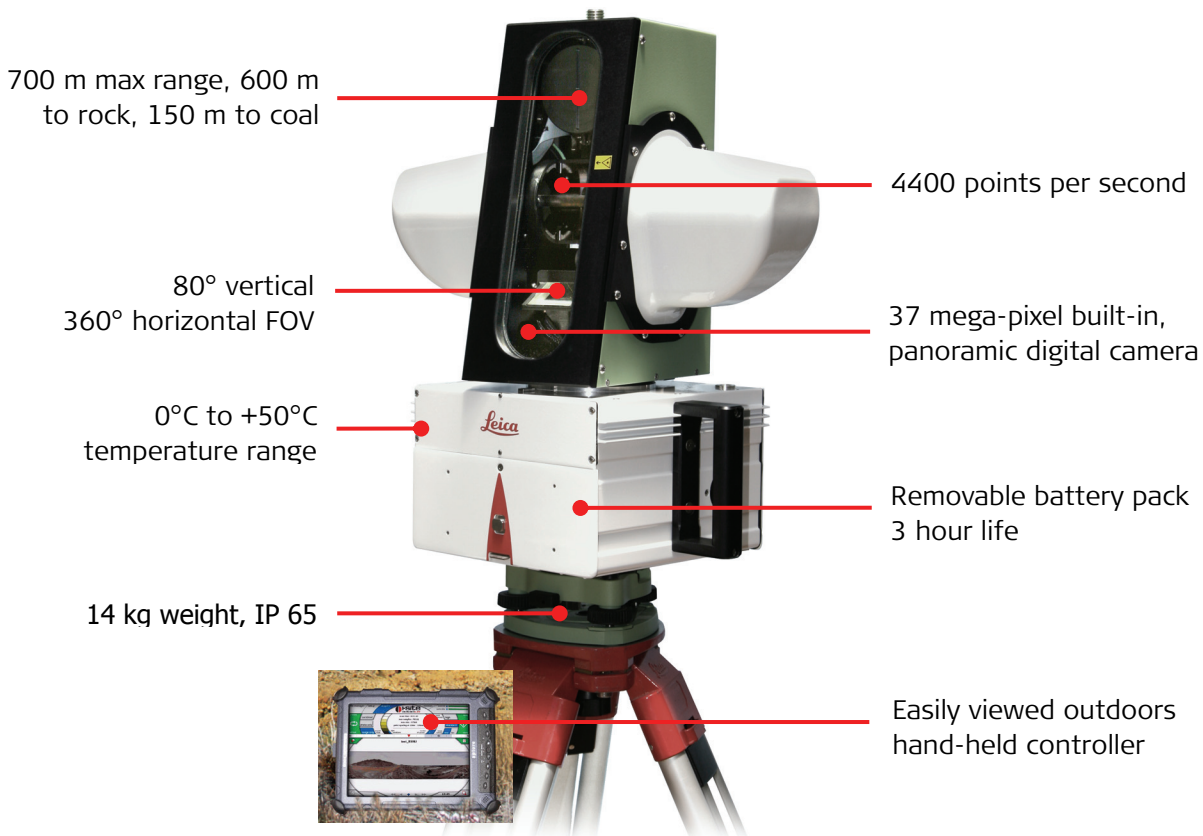
The Leica HDS4400 mine scanning system offers all the benefits of laser scanning in a convenient, easy-to-learn and highly productive package. It's High-Definition Surveying™ (HDS™) for the mining industry.

- Faster
- Safer
- More accurate volumes and contours
- Less intrusive

A complete, integrated system

- ✓ Easy-to-use, highly productive laser scanner
- ✓ Easy-to-use, rugged field data collector
- ✓ Easy-to-learn office software specifically designed for mine surveyors
- ✓ Leica-quality training, support and warranty

Full photographic detail makes it easier and more efficient to analyze the mine scene. A high-resolution, panoramic camera image is taken while scanning and automatically rendered over the laser scan data. There is no separate camera, calibration or alignment.



Portable, surveyor-friendly instrument

- Fast, long range scanner
- Motorized backsight telescope
- Automatic, digital tilt compensation
- Embedded, high-resolution, panoramic, colour camera
- Removable, long-life battery

Use traditional survey workflows

- Standard instrument setup
- Stationing
- GPS data integration

Intuitive, mining-specific Software

Use the stand-alone office software for

- Stockpile and excavation reconciliations
- Bucket, truck and shovel volumes
- Open pit and quarry surveys
- Tailings dam measurements
- Bulk material profiles within silos
- Geologic mapping

Easy-to-learn

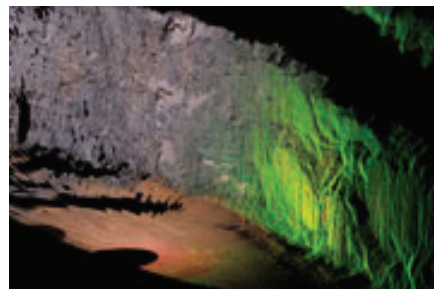
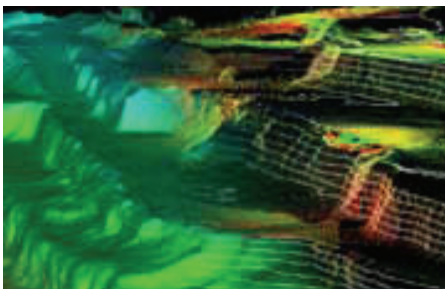
- Drag and drop file management
- Intuitive task and application icons
- Automatic surface high & low points
- Full data import/export
- Automatic edge detection
- Check scan data against design surfaces
- Many more valuable capabilities

Key software features

Included with the system, the scanning and processing software features a complete set of tools for mining.

- Powerful 3D graphics interface
- Colour and intensity data display
- Windows™ style data browser
- Registration
- Modelling (2D, 3D)
- Exporting
- Volumes, surface calculations
- Contours
- Sections
- Face maps
- 3D scene models
- Building footprints and elevations

The software is specifically designed for mine surveying, so users are not burdened with confusing, extra commands and features for non-mining applications. For other applications such as plant and architectural as-built surveys, Leica Geosystems recommends the Leica Cyclone and CloudWorx suite of software products and the high-accuracy, pulsed Leica ScanStation2 and phase-based Leica HDS6100 scanners.



World Class Leica Geosystems Training & Support

Leica Geosystems is one of the world's largest manufacturers and developers of surveying and measurement instruments and software. For 3D laser scanning, Leica Geosystems is by far the industry leader, with more scanners and software users than all other manufacturers combined.

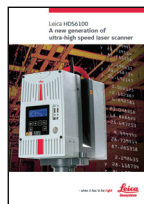
One key reason for the popularity of Leica Geosystem products is our renowned global service, support, and training. Training, for example, includes both on-site and classroom training by industry experts. In addition, Leica Geosystems strong user community (thousands of laser scanning customers) provides an additional resource network for customers.

Key Leica HDS4400 Performance Specifications

General		Data transfer	
Instrument type	Compact, pulsed, high-speed laser scanner with mining grade accuracy, range and field-of-view	Data storage	Ethernet cable to rugged PC
User interface	External rugged tablet PC customised for use with system	Data storage	Rugged PC
Scanner drive	Servo motor	Compensator	Built-in tilt compensator 20" resolution
Data storage	External rugged PC	Level indicator	External bubble 30" divisions, 20' bubble
Camera	Integrated 37 mega pixel digital camera	Mounting	Tribrach
Laser Scanning System		Electrical	
Type	Pulse 905 nm	Battery Type	Integrated NiMH rechargeable and removable
Laser class	3R (IEC 60825-1)	Duration	3 hours
Range*	5 m -700 m 600 m to 40 % albedo (rock) 150 m to 5 % albedo (coal)	Environmental	
Scan rate	4,400 points per second	Operating temp.	0 °C to +50 °C
Divergence	+ 1.4 mrad	Protection class	IP 65 (IEC 60529)
Angular separation	0.108° minimum	Physical	
Accuracy		Dimensions	431 x 271 x 356 mm
Range**	20 mm at 50 m Typically 50 mm over full range	Weight	14 kg (includes battery)
Angle	+/- 0.04 °	Field Computer (included)	
Repeatability**	10 mm at 50 m	Software for Scanning and Post-Processing (included)	
Field-of-view		Scan Control, Registration, Modelling (2D, 3D), Exporting, Volumes, Surfaces, Contours, Sections, Face Maps, 3D Scene Models, Building Footprints and Elevations	
Horizontal	360 °	Ordering Information	
Vertical	80 °	Contact Leica Geosystems or authorized representatives	
Aiming/Sighting	Built-in, motorised telescope (14 x) Additional co-aligned 670 nm (red) laser pointer	* Values are average performance on sample surfaces, performance will vary depending on individual target surface characteristics ** Under laboratory conditions	



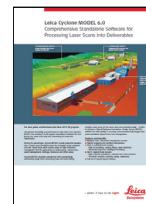
Leica ScanStation2



Leica HDS6100



Leica Cyclone REGISTER 6.0



Leica Cyclone MODEL 6.0



Leica Cyclone II TOPO

All specifications are subject to change without notice.

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

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