Leica ScanStation P50
Because every detail matters

HDS

The right choice
Whether you have to 3D capture the world's tallest buildings, document the widest infrastructure objects or scan the biggest open pit mines, you know long range scanning will be essential for your job. Adding long range scanning capability to the market leading ScanStation P-Series the new Leica ScanStation P50 is the right choice, because every detail matters.

Scan inaccessible places
The ScanStation P50 delivers highest quality 3D data and HDR imaging at an extremely fast scan rate of up to 1 mio points per second and ranges of more than 1 km. Unsurpassed range and angular accuracy paired with low range noise and survey-grade dual-axis compensation form the foundation for highly detailed 3D color point clouds mapped in realistic clarity.

High performance under harsh conditions
The extremely durable new ScanStation P50 performs even under the toughest environmental conditions, such as under extreme temperatures ranging from -20°C to + 50°C and complies with the IP54 rating for dust and water resistance.

Complete scanning solution
Leica Geosystems offers the new ScanStation P50 as an integrated part of a complete scanning solution including hardware, software, service, training and support. 3D laser scanner data can be processed in the industry's leading 3D point cloud software suite, which consists of Leica Cyclone stand-alone software, Leica JetStream, Leica CloudWorx plug-in tools for CAD systems and the cost-free Leica TruView.

Leica ScanStation P50
Product specifications

SYSTEM ACCURACY		
Accuracy of single measurement *		
Range accuracy	1.2 mm + 10ppm over full range (120 m / 270 m mode) 3 mm + 10ppm over full range (570 m / >1 km mode)	
Angular accuracy	8″ horizontal; 8″ vertical	
Target acquisition **	2 mm standard deviation at 50 m	
Dual-axis compensator	Liquid sensor with real-time onboard compensation, selectable on/off, resolution 1″, dynamic range ±5′, accuracy 1.5″	
DISTANCE MEASUREMENT SYSTEM		
Type	Ultra-high speed time-of-flight enhanced by Waveform Digitizing (WFD) technology	
Wavelength	1550 nm (invisible) / 658 nm (visible)	
Laser class	1 (in accordance with IEC 60825:2014)	
Beam divergence	< 0.23 mrad (FWHM, full angle)	
Beam diameter at front window	≤ 3.5 mm (FWHM)	
Range and reflectivity	Minimum range 0.4 m	
	Maximum range mode	Reflectivity
	120 m	8%
	270 m	34%
	570 m	60%
	>1 km	80%
Scan rate	Up to 1'000'000 points per second	
Range noise *	0.4 mm rms at 10 m 0.5 mm rms at 50 m	
Field-of-View		
Horizontal	360°	
Vertical	290°	
Data storage capacity	256 GB internal solid-state drive (SSD) or external USB device	
Communications / Data transfer	Gigabit Ethernet, integrated Wireless LAN or USB 2.0 device	
Onboard display	Touchscreen control with stylus, full color VGA graphic display (640×480 pixels)	
Laser plummet	Laser class 1 (IEC 60825:2014) Centring accuracy: 1.5 mm at 1.5 m Laser dot diameter: 2.5 mm at 1.5 m Selectable ON/OFF	
IMAGING SYSTEM		
Internal camera		
Resolution	4 mega pixels per each 17°×17° color image; 700 mega pixels for panoramic image	
Pixel size Video	2.2 µm Streaming video with zoom; auto-adjusts to ambient lighting	
White balancing HDR	Sunny, cloudy, warm light, cold light, custom Tonemapped / full range	
External camera	Canon EOS 60D/70D/80D supported	

POWER	
Power supply	24 V DC, 100 – 240 V AC
Battery type	2× Internal: Li-Ion; External: Li-Ion (connect via external port, simultaneous use, hot swappable)
Duration	Internal > 5.5 h (2 batteries) External > 7.5 h (room temp.)
ENVIRONMENTAL	
Operating temperature	–20°C to +50°C / –4°F to 122°F
Storage temperature	–40°C to +70°C / –40°F to 158°F
Humidity	95 %, non-condensing
Dust/Water	Solid particle/liquid ingress protection IP54 (IEC 60529)
PHYSICAL	
Scanner	
Dimensions (D×W×H)	238 mm × 358 mm × 395 mm / 9.4″ × 14.1″ × 15.6″
Weight	12.25 kg / 27.0 lbs, nominal (w/o batteries)
Battery (internal)	
Dimensions (D×W×H)	40 mm × 72 mm × 77 mm / 1.6″ × 2.8″ × 3.0″
Weight	0.4 kg / 0.9 lbs
Mounting	Upright or inverted
CONTROL OPTIONS	
Full color touchscreen for onboard scan control. Remote control: Leica CS10/CS15/CS20/CS35 controller or any other remote desktop capable device, including iPad, iPhone and other SmartPhones; external simulator.	
FUNCTIONALITY	
Survey workflows and onboard registration	Quick orientation, Set azimuth, Known backsight, Resection (4 and 6 parameters), Traverse
Check & Adjust	Field procedure for checking of angular parameters, tilt compensator and range offset
Onboard target acquisition	Target selection from video or scan
Onboard user interface	Switchable from standard to advanced
One button scan control	Scanner operation with one button concept
Scan area definition	Scan area selection from video or scan; batch job scanning
ORDERING INFORMATION	
Contact your local Leica Geosystems representative or an authorized Leica Geosystems dealer.	

All specifications are subject to change without notice.
All accuracy specifications are one sigma unless otherwise noted.
* At 78 % albedo
** Algorithmic fit to planar HDS 4.5" B&W targets

Scanner: Laser class 1 in accordance with IEC 60825:2014
Laser plummet: Laser class 1 in accordance with IEC 60825:2014

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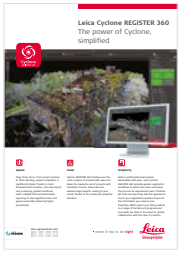
Leica ScanStation P40/P30

Leica ScanStation P16



Leica Cyclone REGISTER 360

active Customer Care

Your Trusted Active Customer Care
Active Customer care is a true partnership between Leica Geosystems and its customers. Customer Care Packages (CCPs) ensure optimally maintained equipment and the most up-to-date software to deliver the best results for your business. The myWorld@Leica Geosystems customer portal provides a wealth of information 24/7.

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- when it has to be **right**

Leica Geosystems