

Leica ScanStation C5 Scalable Laser Scanner

See also
ScanStation
C5
brochure!



Entry-level laser scanner with Leica Geosystems quality and flexible upgradeability

Leica ScanStation C5: Entry-level price, Leica Geosystems quality, optional add-on features for even greater versatility

For companies entering into laser scanning for as-built and engineering surveys, the affordable Leica ScanStation C5 represents a great starting platform: high performance laser scanner, power supply, data storage, touch screen interface, video camera, and laser plummet all in one instrument.

Incremental upgradeability for tailor-made solutions

Users can add additional performance and versatility over time to meet expanding client opportunities. Leica ScanStation C5 owners can easily upgrade to long range, even faster scan

speed, high-accuracy dual-axis compensation for standard survey workflows, and a high-resolution internal camera for color mapping.

Low cost of ownership

An attractive initial price and the ability to add specific features over time enables users to get into laser scanning with an excellent starting point and add just the specific features needed over time. This provides users with a flexible, future safe investment that minimizes ownership costs.

Intuitive user interface

The Leica ScanStation C5 offers an easy-to-learn, color touch screen interface to get started right away. Users can also opt for convenient, handheld control.

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Leica ScanStation C5

Product Specifications

General	
Instrument type	Compact, pulsed, high speed laser scanner, with survey-grade accuracy, range, and field-of-view; integrated video camera and laser plummet
User interface	Onboard control, notebook, tablet PC or remote controller
Data storage	Integrated solid-state drive (SSD), external PC or external USB device
Camera	Auto-adjusting, integrated high-resolution video camera

System Performance	
Accuracy of single measurement	
Position*	6 mm
Distance*	4 mm
Angle (horizontal/vertical)	60 µrad / 60 µrad (12" / 12")
Modeled surface precision**/noise	2 mm
Target acquisition***	2 mm std. deviation

Laser Scanning System	
Type	Pulsed; proprietary microchip
Color	Green, wavelength = 532 nm
Laser Class	3R (IEC 60825-1)
Scan resolution	
Spot size	From 0 – 50 m: 4.5 mm (FWHM-based); 7 mm (Gaussian-based)
Point spacing	Fully selectable horizontal and vertical; < 1 mm minimum spacing, through full range; single point dwell capacity
Field-of-View	
Horizontal	360° (maximum)
Vertical	270° (maximum)
Aiming/Sighting	Parallax-free, integrated zoom video
Scanning Optics	Vertically rotating mirror on horizontally rotating base; Smart X-Mirror™ automatically spins or oscillates for minimum scan time
Data storage capacity	80 GB onboard solid-state drive (SSD) or external USB device
Communications	Dynamic Internet Protocol (IP) Address, Ethernet or wireless LAN (WLAN) with external adapter
Onboard display	Touchscreen control with stylus, full color graphic display, QVGA (320 x 240 pixels)
Level indicator	External bubble, electronic bubble in onboard control and Cyclone software
Data transfer	Ethernet, WLAN or USB 2.0 device
Laser plummet	Laser class: 2 (IEC 60825-1) Centering accuracy: 1.5 mm @ 1.5 m Laser dot diameter: 2.5 mm @ 1.5 m Selectable ON/OFF

Upgrade Options		
Component	Basic	Upgrade
Scan rate	25,000 pts/sec	up to 50,000 pts/sec
Range	35 m @ ≥ 18% albedo	300 m @ 90% albedo, 134 m @ 18% albedo
Dual-axis compensator	not available	Selectable on/off, resolution 1", dynamic range +/- 5', accuracy 1.5"
Integrated camera	Streaming video with zoom; auto-adjusts to ambient lighting	Streaming video with zoom; auto-adjusts to ambient lighting; single image acquisition for color mapping, single 17° 17° image: 1920 x 1920 pixels (4 megapixels) Full 360° x 270° dome: 260 images

Electrical	
Power supply	15 V DC, 90 – 260 V AC
Power Consumption	< 50 W avg.
Battery Type	Internal: Li-Ion; External: Li-Ion
Power Ports	Internal: 2, External: 1 (simultaneous use, hot swappable)
Duration	Internal: >3.5 h (2 batteries), External: >6 h (room temp)

Environmental	
Operating temp.	0° C to 40° C / 32° F to 104° F
Storage temp.	-25° C to +65° C / -13° F to 149° F
Lighting	Fully operational between bright sunlight and complete darkness
Humidity	Non-condensing
Dust/humidity	IP54 (IEC 60529)

Physical	
Scanner	
Dimensions (D x W x H)	238 mm x 358 mm x 395 mm / 9.4" x 14.1" x 15.6"
Weight	13 kg / 28.7 lbs, nominal (w/o batteries)
Battery (internal)	
Dimensions (D x W x H)	40 mm x 72 mm x 77 mm / 1.6" x 2.8" x 3.0"
Weight	0.4 kg / 0.9 lbs
Battery (external)	
Dimensions (D x W x H)	95 mm x 248 mm x 60 mm / 3.7" x 9.8" x 2.4"
Weight	1.9 kg / 4.2 lbs
AC Power Supply	
Dimensions (D x W x H)	85 mm x 170 mm x 41 mm / 3.4" x 6.7" x 1.6"
Weight	0.9 kg / 1.9 lbs

Standard Accessories Included	
Scanner transport case	
Tribrach (Leica Professional Series)	
4x Internal batteries	
Battery charger/AC power cable, Car adapter, Daisy chain cable	
Data cable	
Height meter and distance holder for height meter	
Cleaning kit	
Cyclone™ SCAN software	
1 year CCP Basic support agreement	

Additional Accessories	
HDS scan targets and target accessories	
Service agreement for Leica ScanStation C5	
Extended warranty for Leica ScanStation C5	
External battery with charging station, AC power supply and power cable	
Professional charger for internal batteries	
AC power supply for scanner	
Tripod, tripod star, rolling base, external wireless LAN adapter (third-party)	

Notebook PC for scanning with Cyclone software Δ	
Component	required (minimum)
Processor	1.7 GHz Pentium M or higher
RAM	1 GB (2 GB for Windows Vista)
Network card	Ethernet
Display	SVGA or OpenGL accelerated graphics card (with latest drivers)
Operating system	Windows XP Professional (SP2 or higher) (32 or 64) Windows Vista (32 or 64), Windows 7 (32 or 64)

Control Options	
Full color touch screen for onboard scan control	
Leica Cyclone SCAN software for laptop PC (see Leica Cyclone SCAN data sheet for full list of features)	
Remote controller (Leica CS10/15 or any other remote desktop capable device)	

Ordering Information	
Contact Leica Geosystems or authorized representatives	

All specifications are subject to change without notice.
All ± accuracy specifications are one sigma unless otherwise noted.

* At 1 m – 50 m range, one sigma

** Subject to modeling methodology for modeled surface

*** Algorithmic fit to planar HDS targets

Δ Minimum requirements for modeling operations are different. Refer to Cyclone data sheet specifications

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

Laser plummet: Laser class 2 in accordance with IEC 60825-1 resp. EN 60825-1

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