

# 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.

- when it has to be **right**

**Leica**  
Geosystems

# Leica ScanStation C5

## Product Specifications

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

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

Laser Scanning System	
<b>Type</b>	Pulsed; proprietary microchip
<b>Color</b>	Green, wavelength = 532 nm visible
<b>Laser Class</b>	3R (IEC 60825-1)
<b>Scan resolution</b>	
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
<b>Field-of-View</b>	
Horizontal	360° (maximum)
Vertical	270° (maximum)
Aiming/Sighting	Parallax-free, integrated zoom video
<b>Scanning Optics</b>	Vertically rotating mirror on horizontally rotating base; Smart X-Mirror™ automatically spins or oscillates for minimum scan time
<b>Data storage capacity</b>	80 GB onboard solid-state drive (SSD) or external USB device
<b>Communications</b>	Dynamic Internet Protocol (IP) Address, Ethernet or wireless LAN (WLAN) with external adapter
<b>Onboard display</b>	Touchscreen control with stylus, full color graphic display, QVGA (320 x 240 pixels)
<b>Level indicator</b>	External bubble, electronic bubble in onboard control and Cyclone software
<b>Data transfer</b>	Ethernet, WLAN or USB 2.0 device
<b>Laser plummet</b>	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
<b>Scan rate</b>	25,000 pts/sec	up to 50,000 pts/sec
<b>Range</b>	35 m @ ≥ 5% albedo	300 m @ 90% albedo, 134 m @ 18% albedo
<b>Dual-axis compensator</b>	not available	Selectable on/off, resolution 1", dynamic range +/- 5', accuracy 1.5"
<b>Integrated camera</b>	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° x 17° image: 1920 x 1920 pixels (4 megapixels) Full 360° x 270° dome: 260 images

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

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

Physical	
<b>Scanner</b>	
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)
<b>Battery (internal)</b>	
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
<b>Battery (external)</b>	
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
<b>AC Power Supply</b>	
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 $\Delta$	
<b>Component</b>	<b>required (minimum)</b>
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  $\pm$  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

$\Delta$  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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