Leica ScanStation P20
Industry’s Best Performing
Ultra-High Speed Scanner

Unprecedented performance in ultra-high speed laser scanning

Productivity & Accuracy
An innovative combination of advanced time-of-flight range measurement plus modern Waveform Digitising (WFD) technology enables the compact Leica ScanStation P20 to achieve ultra-high scan speeds and low-noise performance at extended range (to 120 m). Together with high-accuracy angular measurements and survey-grade tilt compensation, Leica ScanStation P20 delivers unprecedented ultra-high speed scan data quality for as-built and scene surveys.

Scan up to 1 million points per second
Leica ScanStation P20 is the ideal instrument when very short time windows are available for capturing High-Definition Survey™ data or when ultra-high density, full dome scan data is needed for client deliverables.

Unprecedented environmental capabilities
Developed and manufactured by Leica Geosystems, Leica ScanStation P20 lets users apply ultra-high speed scanning in operating temperatures ranging from -20° C to +50° C. Moreover, with an Ingress Protection rating of IP54 and a Class 1 laser safety rating, users can reap the benefits of ultra-high speed scanning for even more sites and projects.

“Check & Adjust” for added confidence
Leica ScanStation P20 is the first laser scanner to feature a valuable “Check & Adjust” capability. Instead of sending the instrument to a service centre, users can electronically check the accuracy of their ScanStation P20 themselves and automatically adjust instrument parameters to ensure the highest level of performance.

- when it has to be right

Leica
Geosystems
Leica ScanStation P20
Product Specifications

General
Instrument type
Compact, ultra-high speed pulsed laser scanner with survey grade accuracy, range and field-of-view; integrated camera and laser plummet

User interface
Onboard control, notebook or tablet PC, PDA

Data storage
Integrated solid-state drive (SSD) or external USB flash drive

Camera
Auto-adjusting, integrated high-resolution digital camera with zoom video

System Performance
Accuracy of single measurement
3 mm at 50 m; 6 mm at 100 m ≤ 1 mm
8° horizontal; 8° vertical

Target acquisition
2 mm standard deviation up to 50 m

Dual-axis compensator
Selectable on/off, resolution 1°, dynamic range +/- 5°, accuracy 1.5°

Laser Scanning System
Type
Ultra-high speed time-of-flight enhanced by Waveform Digitising (WFD) technology

Wavelength
808 nm (invisible)

Laser class
1 (IEC 60825-1)

Range
Up to 120 m; 8% reflectivity (minimum range 0.1 m)

Scan rate
Up to 1,000,000 points/s

Range noise
Range Black (8%) Gray (40%) White (90%)

Scan time and resolution
10 pre-set point spacings

Field-of-View
360° Horizontal
270° Vertical

Aiming/Sighting
Parallax-free, integrated zoom video

Scanning optics
Vertically rotating mirror on horizontally rotating base

Data storage capacity
256 GB onboard solid-state drive (SSD) or external USB device

Communications
Gigabit Ethernet or integrated Wireless LAN

Integrated colour digital camera with zoom video
Single 17° x 17° image; 5 megapixels; streaming video with zoom; auto-adjusts to ambient lighting

Onboard display
Touchscreen control with stylus, full colour VGA graphic display (640 x 480 pixels)

Level indicator
External bubble, electronic bubble in onboard software

Laser plummet
Laser class 1 (IEC 60825-1)

Power supply
24 V DC, 100 – 240 V AC

Power consumption
40 W typical

Battery type
Internal: Li-Ion; External: Li-Ion

Power ports
Internal: 2; External: 1 (simultaneous use, hot swappable)

Duration
Internal > 7 h (2 batteries), External > 8.5 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

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
11.9 kg / 26.2 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)
170 mm x 85 mm x 42.5 mm / 6.6” x 3.3” x 1.6”

Weight
0.86 kg / 1.9 lbs

Mounting
Upright or upside down

Standard Accessories Included
Scanner transport case
Trinbrach (Leica Professional Series)

4x Internal batteries
Battery charger / AC power cable, Car adapter, Daisy chain cable

Data cable
Height metre and distance holder for height metre

1 year CCP Basic support contract

Additional Accessories & Services
B/W scan targets and target accessories
Range of Customer Care Products (CCPs) that include Support, Hardware & Software maintenance and Extended warranty.

External battery with charging station, AC power supply and power cable
Professional charger for internal batteries

AC power supply for scanner
Tripod and tripod stand

Upside down mounting adapter

Control Options
Full colour touchscreen for onboard scan control.

Remote control: Leica CS10/CS15 controller or any other remote desktop capable device, including iPad, iPhone and other SmartPhones.

Ordering Information
Contact your local Leica Geosystems representative or an authorised Leica Geosystems dealer.

All specifications are subject to change without notice.
All accuracy specifications are one sigma unless otherwise noted.
* Algorithms fit to planar B&W targets
** Detailed explanation on request

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

iPhone and iPad are trademarks of Apple Inc.

Illustrations, descriptions and technical data are not binding. All rights reserved. Printed in Switzerland – Copyright Leica Geosystems AG, Heerbrugg, Switzerland, 2012.
795781en – VIII.12 – galledia

Leica Geosystems AG
Heerbrugg, Switzerland
www.leica-geosystems.com/hds

- when it has to be right