Leica Nova MS50
Datasheet

INTEGRATED SCANNING OF EVERY DETAIL

The Leica Nova MS50 integrates 3D point cloud measurements into a regular survey workflow. This lets you collect and visualise your topographic survey data together with detailed high-precision scans. Save time by checking your data for integrity and relevance and avoid costly reworking or returns to the field. Benefit from better decisions with richer and more detailed data.

PROVEN TECHNOLOGY FOR UNMATCHED VERSATILITY

The Leica Nova MS50 provides proven total station functionality with superior sensor integration for highest precision, performance and full automation of measurement procedures. Together with the benefits of GNSS connectivity, the Leica Nova MS50 offers complete versatility by delivering reliable results wherever and whenever you need them.

IMAGE ASSISTANCE FOR EVERY SITUATION

The Leica Nova MS50 features an overview camera and a telescope camera with 30x magnification and autofocus. State-of-the-art image processing technology delivers live fluid video streaming of highest image quality. The imaging capabilities of the Leica Nova MS50 open up new opportunities of operating the MultiStation in an almost infinite range of applications.

Leica Nova MS50 MultiStation

ANGLE MEASUREMENT		
Accuracy [1] Hz and V	Absolute, continuous, quadruple	1" (0.3 mgon)
DISTANCE MEASUREMENT		
Range [2]	Prism (GPR1, GPH1P) [3] Non-Prism / Any surface [4]	1.5 m to >10000 m 1.5 m to 2000 m
Accuracy / Measurement time	Single (prism) [2,5] Single (Any surface) [2,4,5,6]	1 mm + 1.5 ppm / typ. 1.5 s 2 mm + 2 ppm / typ. 1.5 s
Laser dot size	at 50 m	8 mm x 20 mm
Measurement technology	Wave Form Digitising	coaxial, visible red laser
SCANNING		
Max. Range [7] / Range noise (1 sigma) [4]	1000 Hz mode 250 Hz mode 62 Hz mode 1 Hz mode	300 m / 1.0 mm at 50 m 400 m / 0.8 mm at 50 m 500 m / 0.6 mm at 50 m 1000 m / 0.6 mm at 50 m
Visualisation of point cloud	Onboard 3D point cloud viewer, including true colour point clouds	
IMAGING		
Overview and telescope camera	Sensor Field of view (overview / telescope) Frame rate	5 Mpixel CMOS sensor 19.4° / 1.5° Up to 20 frames per second
MOTORISATION		
Direct drives based on Piezo technology	Rotation speed / Time to Change Face	max. 200 gon (180°) per s / typ. 2.9 s
AUTOMATIC AIMING (ATR)		
Range ATR mode [2] / Lock mode [2]	Circular prism (GPR1, GPH1P) 360° prism (GRZ4, GRZ122)	1000 m / 800 m 800 m / 600 m
Accuracy [1,2] / Measurement time	ATR angle accuracy Hz, V	1" (0.3 mgon) / typ. 2.5 s
POWERSEARCH		
Range / Search time [8]	360° prism (GRZ4, GRZ122)	300 m / typ. 5 s
GUIDE LIGHT (EGL)		
Working Range / Accuracy		5–150 m / typ. 5 cm @ 100 m
GENERAL		
Autofocus telescope	Magnification / Focus Range	30 x / 1.7 m to infinity
Display and Keyboard	VGA, colour, touch, both faces	36 keys, illumination
Operation	3x endless drives, 1x Servofocus drive, 2x Autofocus keys, User-definable SmartKey	
Power management	Exchangeable Lithium-Ion battery with internal charging capability	Operating Time 7–9 h
Data storage	Internal memory / Memory card	1 GB / SD card 1 GB or 8 GB
Interfaces	RS232, USB, Bluetooth®, WLAN	
Weight	MultiStation incl. battery	7.6 kg
Environmental specifications	Working temperature range Dust & Water (IEC 60529) / Blowing rain Humidity	–20°C to +50°C IP65 / MIL-STD-810G, Method 506.5-I 95%, non-condensing

[1] Standard deviation ISO 17123-3
[2] Overcast, no haze, visibility about 40 km, no heat shimmer
[3] 1.5 m to 3000 m for 360° prisms (GRZ4, GRZ122)
[4] Object in shade, sky overcast, Kodak Gray Card (90% reflective)
[5] Standard deviation ISO 17123-4
[6] Distance > 500 m: Accuracy 4 mm + 2 ppm, Measurement Time typ. 4 s
[7] Object in shade, sky overcast, uninterrupted visibility, static target object, Kodak Gray Card (90% reflective)
[8] Target perfectly aligned to the instrument

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- when it has to be **right**

Leica Geosystems