

# Leica Nova MS60

## Data sheet

Nova



When you are out in the field, you need a fast and versatile instrument. Leica Nova MS60 is the world's first MultiStation, helping you perform all required surveying tasks with just one instrument. The MS60 can be used as a **total station without any compromise** and offers the option to scan with a speed of up **30,000 points per second**. Benefit from **digital imaging** and **GNSS connectivity**. Master your projects by performing point cloud analysis directly in the field – such as flatness analysis or as-built checks in the Inspect Surface app – and by automatically measuring your instrument height with the **AutoHeight feature**. Seamlessly transfer your data with **Leica Exchange** into **Leica Infinity** to manage, process, analyse and quality check it.

### LEICA NOVA MS60 MULTISTATION: MASTER YOUR PROJECTS WITH THE ULTIMATE ALL-ROUNDER

- **Surfaces and volumes in construction and mining:** spoil heaps and stock piles, DTM creation and checking surfaces, material thickness, blast faces and ground levels.
- **Analysis of complex structures and objects within plant, marine and utility projects:** dimensional control, as-built and record keeping.
- **Measuring buildings and structures:** bridge condition/clearance analysis, BIM and as-built.
- **Façade, elevations and heritage work:** creation of traditional façade deliverables, 3D models and photographic documentation.
- **Traditional topographic surveys for surveying and mapping:** creation of traditional deliverables like 2D maps or 3D models.
- **Enhanced prism monitoring with scanning:** 24/7 automatic mm-level measurements of surfaces like roads, buildings, dams and tunnels with real-time messages in case of detected movements.

# Leica Nova MS60 MultiStation

## ANGLE MEASUREMENT

Accuracy <sup>1</sup> Hz and V	■ Absolute, continuous, quadruple	1" (0.3 mgon)
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## DISTANCE MEASUREMENT

Range <sup>2</sup> / Accuracy / Measurement time	■ Prism (GPR1, GPH1P) <sup>2,3,5</sup> ■ Single (any surface) <sup>2,4,5,6</sup>	1.5m to >10,000m / 1mm + 1.5ppm / typ. 1.5s 1.5m to 2,000m / 2mm + 2ppm / typ. 1.5s
Measurement technology	Wave Form Digitising	Coaxial, visible red laser, dot size 8mm x 20mm @ 50m

## SCANNING

Scan Rate / Maximum Scan Speed	30.000 Hz	30,000 points per second
Max. Range <sup>7</sup> / Range noise (1 sigma)	■ 30 kHz mode ■ 8 kHz mode ■ 1 kHz mode ■ 1 Hz mode	60m / 3mm @ 50m 150m / 1.5mm @ 50m 300m / 1.0mm @ 50m 1,000m / 0.6mm @ 50m
Scan data	3D point cloud including true colour, intensity and signal-to-noise data	
Scan duration	■ Full dome scan 400gon x 155gon ■ Band Scan 400gon x 50gon	Resolution 50mm @ 15m, duration 12mins Resolution 12.5mm @ 50m, duration 45mins

## IMAGING

Overview and telescope camera	■ Resolution / Frame rate ■ Field of view (overview / telescope)	5 MPx CMOS / up to 20 fps 19.4° / 1.5°
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## MOTORISATION

Direct drives based on Piezo technology	Rotation speed / Time to change face	Maximum 400 gon (360°) per s / typically 2.9s
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## AUTOMATIC AIMING - ATRplus

Target aiming range <sup>2</sup> / Target locking range <sup>2</sup>	■ Circular prism (GPR1, GPH1P) ■ 360° prism (GRZ4, GRZ122)	1,500m / 1,000m 1,000m / 1,000m
Accuracy <sup>1,2</sup> / Measurement time	ATRplus angle accuracy Hz, V	1" (0.3 mgon) / typically 2.5s

## POWERSEARCH

Range / Search time	360° prism (GRZ4, GRZ122)	300m / typically 5s
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## GUIDE LIGHT (EGL)

Working range / Accuracy		5–150m / typically 5cm @ 100m
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## GENERAL

Operating system / Field software	Windows EC7 / Leica Captivate and its apps, supports onsite and realtime decisions	
Processor	TI OMAP4430 1GHz Dual-core ARM® Cortex™- A9 MPCore™	
Autofocus telescope	Magnification / Focus Range	30 x / 1.7m to infinity
AutoHeight Module	■ Distance accuracy ■ Distance range	1.0 mm (1 Sigma) 0.7 m to 2.7 m
Display and keyboard	5" (inch), WVGA, colour, touch, both faces	37 keys, illumination
Operation	3x endless drives, 1x Servofocus drive, 2x Autofocus keys, user-definable SmartKey	
Power management	Exchangeable Lithium-Ion battery	Up to 9h, internal charging capability
Data storage	Internal memory / Memory card	2 GB / SD card 1 GB or 8 GB
Interfaces	RS232, USB, Bluetooth®, WLAN	
Weight	MultiStation including battery	7.7kg
Environmental specifications	■ Working temperature range ■ Dust & Water (IEC 60529) / Blowing rain ■ Humidity	-20°C to +50°C IP65 / MIL-STD-810G, Methods 506.5 I and 507.5 95%, non-condensing

<sup>1</sup> Standard deviation ISO 17123-3

<sup>2</sup> Overcast, no haze, visibility about 40km, no heat shimmer

<sup>3</sup> 1.5m to 3,000m for 360° prisms (GRZ4, GRZ122)

<sup>4</sup> Object in shade, sky overcast, Kodak Gray Card (90% reflective)

<sup>5</sup> Standard deviation ISO 17123-4

<sup>6</sup> Distance > 500m: Accuracy 4mm + 2ppm, Measurement time typically 4s

<sup>7</sup> Object in shade, sky overcast, uninterrupted visibility, static target object, Kodak Gray Card (90% reflective)



Laser radiation, avoid direct eye exposure.  
Class 3R laser product in accordance with IEC 60825-1:2014.



**Integrate with LOC8 – Lock & Locate**

For more information visit: [leica-geosystems.com/LOC8](http://leica-geosystems.com/LOC8)

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