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.

- when it has to be right
**Leica Nova MS50 MultiStation**

### ANGLE MEASUREMENT

**Accuracy**
1° Hz and V  
Absolute, continuous, quadruple  
1° (0.3 mgon)

### DISTANCE MEASUREMENT

**Range**
- Prism (GPR1, GPH1P)  
- Non-Prism / Any surface

**Accuracy / Measurement time**
- Single (prism)  
- Single (Any surface)

**Laser dot size**
8 mm x 20 mm

**Measurement technology**
Wave Form Digitising
- coaxial, visible red laser

### SCANNING

**Max. Range**
- 1000 Hz mode  
- 250 Hz mode  
- 62 Hz mode  
- 1 Hz mode

**Range / Search time**
- 360° prism (GRZ4, GRZ122)

**Visualization 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

**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**
- Circular prism (GPR1, GPH1P)  
- 360° prism (GRZ4, GRZ122)

**Accuracy**
- ATR angle accuracy Hz, V  
- 1° (0.3 mgon) / typ. 2.5 s

### POWERSEARCH

**Range / Search time**
- 360° prism (GRZ4, GRZ122)

### 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  
-20°C to +50°C  
Humidity
IP65 / MIL-STD-810G, Method 506.5-I  
95%, non-condensing

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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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