

# Leica Nova TM50 Datasheet

Nova



## IMAGE ASSISTANCE FOR EVERY SITUATION

The Leica Nova TM50 includes an overview camera and a telescope camera with 30x magnification and autofocus. With state-of-the-art image processing technology the Leica Nova TM50 delivers the highest quality image for complete visual documentation of the monitoring environment. Obstructions in the line of sight can be easily inspected remotely, avoiding safety concerns in high-risk environments.



## CONTINUOUS OPERATION AND RELIABILITY

The Leica Nova TM50 meets the challenge of 24 hours, 7 days a week monitoring applications. It is designed to withstand the roughest use in the most severe environments. The Leica Nova TM50 will operate throughout a wide temperature range and is protected against wind driven rain, sand and dust. The Leica Nova TM50 is fully operational in bright sunlight and complete darkness.



## COMPLETE MONITORING INTEGRATION

The Leica Nova TM50 forms one component of a unique Monitoring solution which seamlessly integrates total stations, GNSS receivers and antennas, geotechnical sensors, software and IT communication infrastructures. Leica GeoMoS software provides a highly flexible automatic deformation monitoring system that is able to combine sensors to give you peace of mind.

# Leica Nova TM50 Monitoring Station

<b>ANGLE MEASUREMENT</b>		
Accuracy <sup>1</sup> Hz and V	Absolute, continuous, quadruple	0.5" (0.15 mgon) or 1" (0.3 mgon)
<b>DISTANCE MEASUREMENT</b>		
Range <sup>2</sup>	Prism (GPR1, GPH1P) <sup>3</sup> Non-Prism / Any surface <sup>4</sup>	1.5 m to 3500 m 1.5 m to >1000 m
Accuracy / Measurement time	Single (prism) <sup>2,5</sup> Single (Any surface) <sup>2,4,5,6</sup>	0.6 mm + 1 ppm / typ. 2.4 s 2 mm + 2 ppm / typ. 3 s
Laser dot size	at 50 m	8 mm x 20 mm
Measurement technology	System Analyser	coaxial, visible red laser
<b>IMAGING<sup>7</sup></b>		
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
<b>MOTORISATION</b>		
Direct drives based on Piezo technology	Rotation speed Time to Change Face	max. 200 gon (180°) / s typ. 2.9 s
<b>LONG RANGE AUTOMATIC AIMING (ATR)</b>		
Range ATR mode <sup>2</sup>	Circular prism (GPR1, GPH1P) 360° prism (GRZ4, GRZ122)	3000 m 1500 m
Accuracy <sup>1,2</sup> / Measurement time	ATR angle accuracy Hz, V	0.5" (0.15 mgon) or 1" (0.3 mgon) / typ. 3-4 s
<b>GENERAL</b>		
Autofocus <sup>8</sup> Telescope	Magnification / Focus Range	30 x / 1.7 m to infinity
Display and Keyboard	VGA, colour, touch, Face 1 standard (Face 2 optional)	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	Monitoring Station incl. battery	7.6 kg
Environmental specifications	Working temperature range Dust & Water (IEC60529) / Blowing rain Humidity	-20°C to +50°C IP65 / MIL-STD-810G, Method 506.5-I 95%, non-condensing

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

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

<sup>3</sup> 1.5m to 3000m 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 > 500 m: Accuracy 4 mm+2 ppm, Measurement Time typ. 6 s

<sup>7</sup> Available on TM50 I models

<sup>8</sup> Autofocus for TM50 I models, Servofocus only for TM50 models

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