

# Leica Nova TS50 Datasheet

Nova



## IMAGE ASSISTANCE FOR EVERY SITUATION

The Leica Nova TS50 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 TS50 open up new possibilities for operating this perfect total station in an almost infinite range of applications.



## PROVEN TECHNOLOGY FOR UNMATCHED VERSATILITY

The Leica Nova TS50 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 TS50 offers complete versatility by delivering reliable results wherever and whenever you need them.



## LEICA SMARTWORX

The Leica Nova TS50 is equipped with the latest Leica SmartWorx software to provide unparalleled ease-of-use and performance. No matter how complex the application, Leica SmartWorx has functionality to complete every task with ease. With identical operation for TPS and GNSS, changing between Leica TPS and GNSS instruments is smooth and simple.

# Leica Nova TS50 Total Station

<b>ANGLE MEASUREMENT</b>		
Accuracy <sup>1</sup> Hz and V	Absolute, continuous, quadruple	0.5" (0.15 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</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>AUTOMATIC AIMING (ATR)</b>		
Range ATR mode <sup>2</sup> / Lock mode <sup>2</sup>	Circular prism (GPR1, GPH1P) 360° prism (GRZ4, GRZ122)	1000 m / 800 m 800 m / 600 m
Accuracy <sup>1,2</sup> / Measurement time	ATR angle accuracy Hz, V	0.5" (0.15 mgon) / typ. 3–4 s
<b>POWERSEARCH</b>		
Range / Search Time <sup>7</sup>	360° prism (GRZ4, GRZ122)	300 m / typ. 5 s
<b>GUIDE LIGHT (EGL)</b>		
Working Range / Accuracy		5–150 m / typ. 5 cm @ 100 m
<b>GENERAL</b>		
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	Total Station 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 506.5-1 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> 1.5 m to 2000 m 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> Target perfectly aligned to the instrument

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