

Leica Viva TS12 Lite

Datasheet



Best-in-class Electronic Distance Measurement (EDM)

With PinPoint EDM, Viva TS12 Lite delivers the optimal balance of range, accuracy, reliability, beam visibility, laser dot size and measurement time.

- 1 mm + 1.5 ppm to prism
- 2 mm + 2 ppm to any surface
- 1000 m range without a prism



Best-in-class Automatic Target Aiming

Viva TS12 Lite includes Automatic Target Aiming technology to increase productivity by providing fast and fatigue free automatic pointing to reflectors with optimum measurement precision.

- Accurate & Fast – 1 mm base positioning accuracy in 3 – 4 sec
- Long range – measure to reflectors up to 1000 m
- Flexible – operates in all conditions including darkness



Technical Specifications

Leica Viva TS12 Lite

Technical Specifications	Leica Viva TS12 Lite
Angle measurement	●
Distance measurement to prism	●
Distance measurement to any surface (reflectorless)	●
Motorized	●
Automatic Target Aiming	●
RS232, USB and SD card interface	●
Bluetooth	●
Internal Flash Memory (1GB)	●
Guide Light (EGL)	●

- when it has to be **right**

Leica
Geosystems

Technical Specifications TS12 Lite



Leica Viva TS12 Lite

Angular Measurement



Accuracy Hz, V ¹	2" (0.6 mgon), 3" (1 mgon), 7" (2 mgon)
Display resolution	0.1" (0.1 mgon)
Method	absolute, continuous, diametrical
Compensation	Quadruple axis compensation
Compensator setting accuracy	0.5" (0.2 mgon), 1.0" (0.3 mgon), 2" (0.7 mgon)

Distance Measurement



Distance Measurement (Prism)	
Range²	
Round prism (GPR1) / 3 Round prisms (GPR1)	3500 m (12000 ft) / 5400 m (17700 ft)
360° prism (GRZ4, GRZ122), Mini prism (GMP101)	2000 m (7000 ft)
Reflective tape (60 mm x 60 mm)	250 m (800 ft)
Accuracy^{3,4} / Measurement Time	
Standard	1 mm + 1.5 ppm / typ. 2.4 s
Fast	3 mm + 1.5 ppm / typ. 0.8 s
Continuous	3 mm + 1.5 ppm / typ. <0.5 s
Distance Measurement (Any Surface)	
Range⁶	
PinPoint R400 / R1000	400 m (1310 ft) / 1000 m (3280 ft)
Accuracy^{3,7} / Measurement Time	
PinPoint R400 & R1000	2 mm + 2 ppm / typ. 3 s
Distance Measurement (Long-range)	
Long-range ^{2,4}	>10000 m (>32800 ft)
Accuracy^{3,6} / Measurement Time	
Long-range	5 mm + 2 ppm / typ. 2.5 s
General	
Display resolution	0.1 mm
Shortest measurable distance	1.5 m
Method	System analyzer based on phase shift measurement (coaxial, visible red laser)
Laser dot size (Non-Prism)	At 30 m: 7 mm x 10 mm, at 50 m: 8 mm x 20 mm

General



Operating system & Processor	
Operating System / Processor	Windows CE 6.0 / Freescale i.MX31 533 MHz ARM Core
Telescope	
Magnification / Free objective aperture	30 x / 40 mm
Field of view	1° 30' (1.66 gon) / 2.7 m at 100 m
Focusing range	1.7 m to infinity
Keyboard and Display	
Display	640 x 480 pixel (VGA) color TFT with LED backlight and touch screen
Keyboard	36 keys (12 function keys, 12 alphanumeric keys), illumination
Position	face I standard / face II optional
Memory, Ports & Communication	
Internal memory / Memory devices	1 GB (nonvolatile NAND Flash) / SD card, USB stick
Interfaces	RS232, Bluetooth® Wireless-Technology, USB mini AB OTG
Operation	
Sensitivity of Circular level	6' / 2 mm
Centering accuracy of Laser plummet	1.5 mm at 1.5 m
Number of drives	1 horizontal / 1 vertical
Power Management	
Internal Battery / Operating Time / Voltage / Capacity	Lithium Ion / 5 - 8 h (GEB221) / 7.4 V / 4.4 Ah
Weight and Dimensions	
Weight of Total Station / Battery GEB221 / Tribrach GEB121	4.9 - 5.5 kg / 0.2 kg / 0.8 kg
Height / Width / Length	345 mm / 226 mm / 203 mm
Environmental specifications	
Working / Storage temperature range	-20° C to +50° C / -40° C to +70° C
Dust / water (IEC 60529) / Humidity	IP55 / 95%, non-condensing
Motorization	
Rotation speed	45° (50 gon) / s
Guide Light (EGL)	
Working Range / Positioning accuracy	5 - 150 m / 5 cm at 100 m

Automatic Target Aiming (ATR)



Range	ATR Mode
Round prism (GPR1) / 360° prism (GRZ4, GRZ122)	1000 m (3300 ft) / 800 m (2600 ft)
Mini prism (GMP101) / Reflective tape (60 mm x 60 mm)	500 m (1600 ft) / 55 m (175 ft)
Shortest distance to 360° prism	1.5 m
Accuracy¹ / Measurement Time	
ATR angle accuracy Hz, V / Base positioning accuracy	1" (0.3 mgon) / ±1 mm
Measurement Time for GPR1	3 - 4 s
Searching	
Search time in field of view	Typ. 1.5 s
Field of view	1° 30' (1.66 gon)
Definable search windows	Yes
Method	Digital Image processing

¹ Standard deviation ISO 17123-3. ² Overcast, no haze, visibility about 40 km; no heat shimmer. ³ Standard deviation ISO 17123-4. ⁴ To Round Prism GPR1. ⁵ Fast Mode. ⁶ Object in shade, sky overcast, Kodak Grey Card (90% reflective). ⁷ Distance >500 m 4 mm + 2 ppm.

Swiss Technology
by Leica Geosystems



Total Quality Management -
our commitment to total
customer satisfaction.

The Bluetooth® word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Leica Geosystems AG is under license.

Other trademark and trade names are those of their respective owners.

Distance meter (Prism), ATR:
Laser class 1 in accordance
with IEC 60825-1 resp. EN 60825-1

Laser plummet:
Laser class 2 in accordance
with IEC 60825-1 resp. EN 60825-1

Distance meter (Non-Prism):
Laser class 3R in accordance
with IEC 60825-1 resp. EN 60825-1



Illustrations, descriptions and technical data are not binding.
All rights reserved. Printed in Switzerland -
Switzerland, 2012. 796832en - Ill.12 - galledia

Leica Geosystems AG
Heerbrugg, Switzerland
www.leica-geosystems.com

- when it has to be **right**

Leica
Geosystems