Leica Viva TS12 Robotic
Datasheet

Best-in-class Electronic Distance Measurement (EDM)

With PinPoint EDM, Leica Viva TS12 Robotic 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 Robotic Surveying

Leica Viva TS12 Robotic uses years of experience to optimally combine the world's best total station sensors: angles, distances, drives and the patented PowerSearch target recognition camera.

- **Search** – the unique PowerSearch finds your prism within seconds
- **Lock** – Leica Viva TS12 Robotic stays locked onto your prism in the most demanding environments
- **Measure** – PinPoint EDM seamlessly harmonizes with precise angle sensors to complete the measurement process

Leica Viva TS12 Robotic	TS12A	TS12P
Angle measurement	●	●
Distance measurement (Prism)	●	●
Distance measurement (Non-Prism)	●	●
Motorized	●	●
Automatic Target Aiming (ATR)	●	●
PowerSearch (PS)	–	●
Guide Light (EGL)	●	●
Remote Control Unit CS10 / RadioHandle	●	●
	● = Standard	– = Not available

- when it has to be **right**

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Technical Specifications TS12 Robotic

Leica Viva TS12 Robotic

Angular Measurement	Accuracy Hz, V[1]	1" (0.3mgon) 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), 1.5" (0.5 mgon)
Distance Measurement	**Distance Measurement (Prism)**	
	Range[2]	
	Round prism (GPR1)	3500 m (12000 ft)
	360° prism (GRZ4, GRZ122)	2000 m (7000 ft)
	Mini prism (GMP101)	2000 m (7000 ft)
	Accuracy[3,4] / Measurement Time	
	Standard	1 mm + 1.5 ppm / 2.4 s
	Tracking	3 mm + 1.5 ppm / < 0.15 s
	Distance Measurement (Non-Prism)	
	Range[5]	
	PinPoint R400 / R1000	400 m (1310 ft) / 1000 m (3280 ft)
	Accuracy[3,6] / Measurement Time	
	PinPoint R400 & R1000	2 mm + 2 ppm / typ. 3 s
	General	
	Display resolution	0.1 mm
	Laser dot size (Non-Prism)	At 30 m: 7 mm x 10 mm, at 50 m: 8 mm x 20 mm
General	**Telescope**	
	Magnification	30 x
	Free objective aperture	40 mm
	Field of view	1° 30' (1.66 gon) / 2.7 m at 100 m
	Keyboard and Display	
	Display / Keyboard	1/4 VGA (320*240 px), color, illumination, touch screen / 28 keys
	Operation	
	Sensitivity of Circular Level	6' / 2 mm
	Centering accuracy of Laser plummet	1.5 mm at 1.5 m
	Power Management	
	Internal Battery / Voltage / Capacity / Operating Time	Lithium Ion / 7.4 V / 4.4 Ah / 5 – 8 h (GEB221)
	Weight and Dimensions	
	Weight of Total Station / Battery GEB221 / Tribrach GDF121	4.8 – 5.5 kg / 0.2 kg / 0.8 kg
	Environmental specifications	
	Working / Storage temperature range	-20° C to +50° C / -40° C to +70° C
	Dust / water (IEC 60529) / Humidity	IP54 / 95%, non-condensing
	Guide Light (EGL)	
	Working Range	5 – 150 m
	Positioning accuracy	5 cm at 100 m
	Motorization	
	Rotation speed	45° (50 gon) / s

Leica Viva Robotic Surveying

Automatic Target Aiming (ATR)	**Range**	**ATR Mode**	**Lock Mode**
	Round prism (GPR1)	1000 m (3300 ft)	800 m (2600 ft)
	360° prism (GRZ4, GRZ122)	800 m (2600 ft)	600 m (2000 ft)
	Mini prism (GMP101)	500 m (1600 ft)	400 m (1300 ft)
	Shortest measuring distance to 360° prism	1.5 m	5 m
	Accuracy[1] / Measurement Time		
	ATR angle accuracy Hz, V	1" (0.3 mgon)	
	Measurement Time for GPR1	3 – 4 s	
	Maximum speed (Lock Mode)		
	Tangential (standard mode)	5 m / s at 20 m, 25 m / s at 100 m	
	Radial (tracking mode)	5 m / s	
	Searching		
	Definable search windows / Search time in field of view	Yes / Typ. 1.5 s	
Power Search (PS)	**Range**		
	Round prism (GPR1)	300 m (1000 ft)	
	360° reflector[7] (GRZ4, GRZ122)	300 m (1000 ft)	
	Mini prism (GMP101)	100 m (330 ft)	
	Shortest distance	1.5 m	
	Searching		
	Typical search time	5 – 10 s	
	Definable search windows / Default search area	Yes / Hz: 360° (400 gon), V: 36° (40 gon)	

[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] Object in shade, sky overcast, Kodak Grey Card (90% reflective)
[6] Distance >500 m 4 mm + 2 ppm
[7] Target perfectly aligned to the instrument

Swiss Technology by Leica Geosystems

TQM ISO 9001 / ISO 14001

Total Quality Management – our commitment to total customer satisfaction.

Distance meter (Prism), ATR and PowerSearch:
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

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