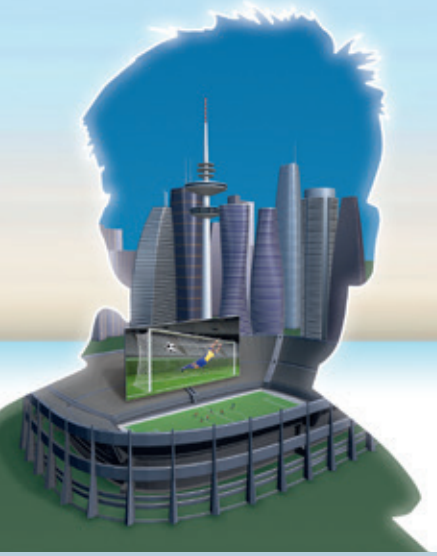
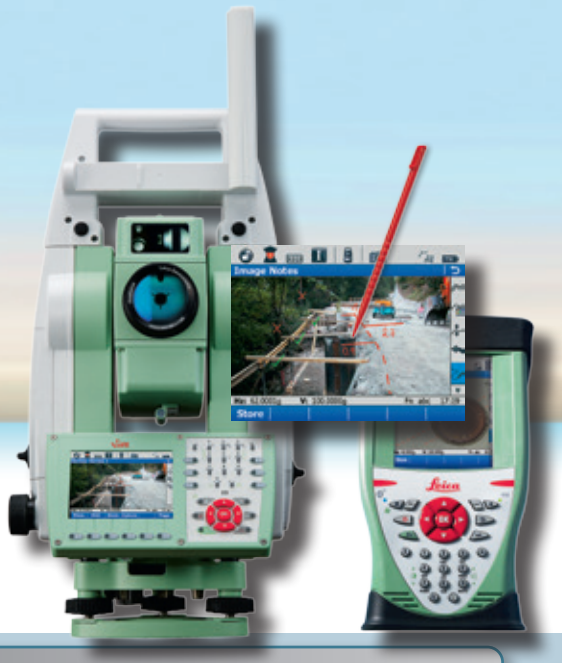
Leica Viva TS15





Best-in-class Imaging

Optimize your productivity with exact photo documentation of site conditions. With live streaming of the total station view, you always know what the total station sees. Measure all points without returning to the total station.

- **Image Notes** – Capture an image, screenshot or template, sketch on it and link it to any object in the database.
- **Image Assisted Surveying** – Simply tap on the display and the total station will turn and measure the desired target.

Best-in-class One-Person-Surveying

Viva TS15 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** – Viva TS15 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 GNSS Add-on

Add full GNSS functionality to your Viva TS15 whenever you want and combine TPS and GNSS in the most efficient way.

- Use SmartStation for TPS setup without the need of control points, traverses and resections
- Use SmartPole to save time with setup 'On-the-fly' and measure parallel with TPS and GNSS for double productivity

Technical Specifications TS15

Leica Viva TS15	TS15 M	TS15 A	TS15 G	TS15 P	TS15 I
Angle measurement	●	●	●	●	●
Distance measurement to prism	●	●	●	●	●
Distance measurement to any surface (reflectorless)	●	●	●	●	●
Motorized	●	●	●	●	●
Automatic Target Aiming	–	●	●	●	●
PowerSearch (PS)	–	–	–	●	●
Overview Camera	–	–	–	–	●
RS232, USB and SD card interface	●	●	●	●	●
Bluetooth	●	●	●	●	●
Internal Flash Memory (1GB)	●	●	●	●	●
Hotshoe interface for radiohandle	●	●	●	●	●
Guide Light (EGL)	●	●	–	●	●
Laser Guide	–	–	●	–	–
SmartStation/SmartPole GS15 GNSS receiver	○	○	○	○	○
SmartStation/SmartPole GS14 GNSS receiver	○	○	○	○	○
SmartStation/SmartPole GS12 GNSS receiver	○	○	○	○	○
Radio field controller CS10/CS15	○	○	○	○	○
	● = Standard	○ = Optional	– = Not available		

Angular Measurement	Accuracy Hz, V[1]	1'' (0.3 mgon), 2'' (0.6 mgon), 3'' (1 mgon), 5'' (1.5 mgon)
	Display resolution	0.1'' (0.1 mgon)
	Method	absolute, continuous, diametrical
	Compensation	Quadruple axis compensation
	Compensator setting accuracy	0.5'' (0.2 mgon), 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)
	3 Round prisms (GPR1)	5400 m (17700 ft)
	360° prism (GRZ4, GRZ122)	2000 m (7000 ft)
	360° mini prism (GRZ101)	1000 m (3300 ft)
	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	2 mm + 1.5 ppm / typ. 0.8 s
	Continuous	3 mm + 1.5 ppm / typ. <0.15 s
	Distance Measurement (Any Surface)	
	Range[6]	
	PinPoint R30 / R400 / R1000	30 m (98 ft) / 400 m (1310 ft) / 1000 m (3280 ft)
	Accuracy[3,7] / Measurement Time	
	PinPoint R30 / 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	Windows CE 6.0
	Processor	Freescale i.MX31 533 MHz ARM Core
	Telescope	
	Magnification	30 x
	Free objective aperture	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	Lithium Ion
	Operating Time	5 – 8 h (GEB221)
	Voltage / Capacity	7.4 V / 4.4 Ah
	Weight and Dimensions	
	Weight of Total Station / Battery GEB221 / Tribrach GDF121	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
Guide Light (EGL)	Working Range	5 – 150 m
	Positioning accuracy	5 cm at 100 m

Leica Viva One-Person-Surveying

Motorization	Rotation speed	45° (50 gon) / s	
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)
	360° mini prism (GRZ101)	350 m (1150 ft)	200 m (660 ft)
	Mini prism (GMP101)	500 m (1600 ft)	400 m (1300 ft)
	Reflective tape (60 mm x 60 mm)	45 m (150 ft)	–
	Shortest distance to 360° prism	1.5 m	5 m
	Accuracy[1] / Measurement Time		
	ATR angle accuracy Hz, V	1" (0.3 mgon)	
	Base positioning accuracy	±1 mm	
	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)	4 m / 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	
Power Search (PS)	**Range**		
	Round prism (GPR1)	300 m (1000 ft)	
	360° reflector[8] (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	
	Default search area	Hz: 360° (400 gon), V: 36° (40 gon)	
	Definable search windows	Yes	
	Method	Digital Image processing (rotating laser fan)	

Leica Viva Imaging

Overview Camera	Sensor	5 Mpixel CMOS sensor
	Focal Length	21 mm
	Field of view	15.5° x 11.7° (19.4° diagonal)
	Frame rate	20 frames per second
	Focus	2 m (6.5 feet) to infinity
	Image storage	JPEG up to 5 Mpixel (2560 x 1920)
	Zoom	3-step (1x, 2x, 4x)
	Whitebalance	User configurable
	Brightness	User configurable

Leica Viva SmartStation

Add-on GS15/GS14/GS12	**Position accuracy[9,10]**	Horizontal: 10 mm + 1 ppm, Vertical: 20 mm + 1 ppm	
	RTK Initialization		
	Reliability	>99.99%	
	Time of initialization[11]	GS15/GS14/GS12 4 s, GS08plus 6 s	
	Range	Up to 50 km, assuming reliable data-link is available	
	RTK Data formats for data reception	Leica proprietary formats (Leica, Leica 4G), GPS and GNSS real-time data formats, CMR, CMR+, RTCM v2.1 / 2.2 / 2.3 / 3.x	
	GNSS Antenna		
	Number of channels	GS15/GS14/GS12/GS08plus: 120	
	Dimensions (diameter x height)	GS15: 196 mm x 198 mm GS12: 186 mm x 89 mm	GS14: 190 mm x 90 mm GS08plus: 186 mm x 71 mm
	Weight	GS15: 1.34 kg GS12: 1.05 kg	GS14: 0.93 kg GS08plus: 0.75 kg