

Leica Total Station Viva GS16



Year of Purchase: 2018

Cost: 51 Lac

The Leica Viva GS16 is a powerful self-learning GNSS smart antenna. The growing number of signals from ever-increasing satellite constellations demands the GNSS receiver to be smart and reliable. The GS16 is a solid measurement companion for surveyors who need a survey-proof GNSS system that is light to carry anywhere but handles even the most challenging measurement conditions. The GS16 is a smart solution – Use it as a rover or as a trustworthy base.

The Leica Viva GS16 GNSS smart antenna is accompanied with the revolutionary Captivate software, turning complex data into the most realistic and workable 3D models. With easy-to-use apps and familiar touch technology, all forms of measured and design data can be viewed in all dimensions. Leica Captivate spans industries and applications with little more than a simple swipe, regardless of whether you work with GNSS, total stations or both.

Leica Infinity imports and combines data from your GNSS, total station and level instruments for one final and accurate result. Processing has never been made easier when all your instruments work in tandem to produce precise and actionable information.

Specifications

Feature	Parameter	Specifications
GNSS TECHNOLOGY		
Self-learning GNSS	Leica RTKplus SmartLink (worldwide correction service) SmartLink fill (worldwide correction service)	Adaptive on-the-fly satellite selection Remote precise point positioning (3 cm 2D) 1 Initial convergence to full accuracy 20 - 40 min, Re-convergence < 1 min Bridging of RTK outages up to 10 min (3 cm 2D)
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.99%
Signal tracking		GPS (L1, L2, L2C, L5), Glonass (L1, L2, L32), BeiDou (B1, B2, B32), Galileo (E1, E5a, E5b, Alt-BOC, E62), QZSS (L1, L2, L5, LEX2), NavIC L53, SBAS (WAAS, EGNOS, MSAS, GAGAN), L-band
Number of channels		555 (more signals, fast acquisition, high sensitivity)
MEASUREMENT PERFORMANCE & ACCURACY		

Time for initialization		Typically 4 s
Real-time kinematic (Compliant to ISO17123-8 standard)	Single baseline Network RTK	Hz 8 mm + 1 ppm / V 15 mm + 1 ppm Hz 8 mm + 0.5 ppm / V 15 mm + 0.5 ppm
Post processing	Static (phase) with long observations Static and rapid static (phase)	Hz 3 mm + 0.1 ppm / V 3.5 mm + 0.4 ppm Hz 3 mm + 0.5 ppm / V 5 mm + 0.5 ppm
Code differential	DGPS / RTCM	Typically 25 cm
COMMUNICATIONS		
Communication ports	Lemo Bluetooth®	USB and RS232 serial Bluetooth® v2.00 + EDR, class 2
Communication protocols	RTK data protocols NMEA output Network RTK	Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM NMEA 0183 V 4.00 and Leica proprietary VRS, FKP, iMAX, MAC (RTCM SC 104)
Built-in data links	3.75G GSM / UMTS / CDMA phone modem Radio modem	Fully integrated, internal antenna Fully integrated, receive and transmit, external antenna 403 - 470 MHz, 1 W output power, up to 28800 bps over air
External data link		GSM / GPRS / UMTS / CDMA and UHF / VHF modem
GENERAL		
Field controller and software	Leica Captivate software	Leica CS20 field controller, Leica CS35 tablet
User interface	Buttons and LEDs Web server	On / Off and Function button, 7 status LEDs Full status information and configuration options
Data recording	Storage Data type and recording rate	Removable microSD card, 8 GB Leica GNSS raw data and RINEX data at up to 20 Hz
Weight and dimensions	Weight Diameter x Height	0.93 kg / 3.20 kg standard RTK rover setup on pole 190 mm x 90 mm
Power management	Internal power supply External power supply Operation time	Exchangeable Li-Ion battery (2.6 Ah / 7.4 V) Nominal 12 V DC, range 10.5 - 28 V DC 7 h receiving (Rx) data with internal radio, 5 h transmitting (Tx) data with internal radio, 6 h Rx / Tx data with internal phone modem
Environmental	Temperature Drop Proof against water, sand and dust	-40 to 65°C operating, -40 to 80°C storage Withstands topple over from a 2 m survey pole onto hard surfaces

	Vibration	IP68 (IEC60529 / MIL STD 810G 506.5 I / MIL STD 810G 510.5 I / MIL STD 810G 512.5 I)
	Humidity	Withstands strong vibration (ISO9022-36-08 / MIL STD 810G 514.6 Cat.24)
	Functional shock	100% (ISO9022-13-06 / ISO9022-12-04 / MIL STD 810G 507.5 I)
		40 g / 15 to 23 msec (MIL STD 810G 516.6 I)