

Leica Viva GS16

GNSS TECHNOLOGY

Self-learning GNSS	Leica RTKplus SmartLink (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) ¹
Leica SmartCheck	SmartLink fill (worldwide correction service)	Reliability 99.99%
Signal tracking	Continuous check of RTK solution	GPS (L1, L2, L2C, L5), Glonass (L1, L2, L3 ²), BeiDou (B1, B2, B3 ²), Galileo (E1, E5a, E5b, Alt-BOC, E6 ²), QZSS (L1, L2, L5, LEX ²), NavIC L5 ³ , SBAS (WAAS, EGNOS, MSAS, GAGAN), L-band
Number of channels		555 (more signals, fast acquisition, high sensitivity)

MEASUREMENT PERFORMANCE & ACCURACY¹

Time for initialisation		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 links		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
Power management	Internal power supply External power supply Operation time ⁴	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
Weight and dimensions	Weight Diameter x Height	0.93 kg / 3.20 kg standard RTK rover setup on pole 190 mm x 90 mm
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 IP68 (IEC60529 / MIL STD 810G 506.5 I / MIL STD 810G 510.5 I / MIL STD 810G 512.5 I)
	Vibration	Withstands strong vibration (ISO9022-36-08 / MIL STD 810G 514.6 Cat.24)
	Humidity	100% (ISO9022-13-06 / ISO9022-12-04 / MIL STD 810G 507.5 I)
	Functional shock	40 g / 15 to 23 msec (MIL STD 810G 516.6 I)

LEICA VIVA GS16 - GNSS SMART ANTENNA	Basic	Performance	Unlimited
SUPPORTED GNSS SYSTEMS			
Multi-frequency	•	✓	✓
GPS / GLONASS / Galileo / BeiDou	✓ / • / • / •	✓ / • / • / •	✓ / ✓ / ✓ / ✓
RTK PERFORMANCE			
DGPS/RTCM. RTK Unlimited, Network RTK	•	✓	✓
SmartLink fill / SmartLink	• / •	• / •	✓ / •
POSITION UPDATE & DATA RECORDING			
5 Hz / 20 Hz positioning	✓ / •	✓ / ✓	✓ / ✓
Raw data / RINEX data logging / NMEA out	✓ / • / •	✓ / • / •	✓ / ✓ / ✓
ADDITIONAL FEATURES			
RTK reference station functionality	•	✓	✓
3.75G or CDMA Phone / UHF Radio (receive & transmit) modem	✓ / •	✓ / •	✓ / •

✓ Standard • Optional