Leica Viva GS16
Data sheet

Engaging software

Leica Captivate field software is the perfect companion for the GS16. Everything from measuring, viewing, and sharing data is done within one software. Easy-to-use apps and precise 2D views/3D models enable you to understand, create and utilise data effectively. Captivate spans industries and project use cases with little more than a simple tap, regardless of whether you work with GNSS, total stations or both.

Infinitely bridging the field to the office

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

ACC»

Customer care only a click away

Through Active Customer Care (ACC), a global network of experienced professionals is only a click away to expertly guide you through any challenge. Eliminate delays with superior technical service, finish jobs faster and avoid costly site revisits with excellent consultancy support. Control your costs with a tailored Customer Care Package (CCP), giving you peace of mind you are covered anywhere, anytime.

Leica Viva GS16

GNSS TECHNOLOGY & SERVICES		
Self-learning GNSS	Leica RTKplus	Adaptive on-the-fly satellite selection
HxGN SmartNet Global	HxGN SmartNet Pro	Network RTK and unlimited worldwide RTK bridging and PPP service
	HxGN SmartNet+	Network RTK and RTK bridging service
	HxGN SmartNet PPP	Unlimited worldwide RTK bridging and PPP service
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.99%
Signal tracking	GPS | GLONASS	L1, L2, L2C, L5 | L1, L2, L2C, L3
	Galileo | BeiDou	E1, E5a, E5b, AltBOC, E6 | B1I, B1C, B2I, B2a, B3I
	QZSS | NavIC	L1, L2C, L5, L6[2] | L5[3]
	SBAS | TerraStar	WAAS, EGNOS, MSAS, GAGAN | L-Band, IP
Number of channels		555 (more signals, fast acquisition, high sensitivity)
MEASUREMENT PERFORMANCE & ACCURACY[1]		
Time for RTK 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
RTK bridging	Up to 10 min bridging of RTK outages	Hz 2.5 cm | V 5 cm
PPP	Initial convergence to full accuracy typically 10 min, Re-convergence < 1 min	Hz 2.5 cm | V 5 cm
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	Hz 25 cm | V 50 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 & v 4.10 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 - 473 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 CS30 & CS35 tablets
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 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 Vibration Humidity Functional shock	-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) Withstands strong vibration (ISO9022-36-08 / MIL STD 810G 514.6 Cat.24) 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)

LEICA VIVA GS16 - GNSS SMART ANTENNA	PERFORMANCE	UNLIMITED
SUPPORTED GNSS SYSTEMS		
Multi-frequency	✔	✔
GPS / GLONASS / Galileo / BeiDou / QZSS	✔ / • / • / • / •	✔ / ✔ / ✔ / ✔ / ✔
RTK PERFORMANCE		
DGPS/RTCM. RTK Unlimited, Network RTK	✔	✔
HxGN SmartNet Global	•	•
POSITION UPDATE & DATA RECORDING		
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

[1] Measurement precision, accuracy, reliability and time for initialisation are dependent upon various factors including number of satellites, observation time, atmospheric conditions, multipath etc. Figures quoted assume normal to favourable conditions. A full BeiDou and Galileo constellation will further increase measurement performance and accuracy.

[2] QZSS L6 will be provided through future firmware upgrade.
[3] Support of NavIC L5 is incorporated and will be provided through future firmware upgrade.
[4] Might vary with temperature, age of battery, transmit power of data link device.

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Leica Geosystems AG
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- when it has to be **right**

Leica Geosystems