Leica Viva GS10
Data sheet

Engaging software

The Leica Viva GNSS GS10 receiver is accompanied by the revolutionary Leica 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.

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 problem. Eliminate delays with superior technical service, finish jobs faster with excellent consultancy support and avoid costly site revisits with online service to send and receive data directly from the field. Control your costs with a tailored Customer Care Package, giving you peace of mind you're covered anywhere, anytime.

- when it has to be **right**

Leica Geosystems

Leica Viva GS10

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 Galileo | BeiDou QZSS | NavIC SBAS | TerraStar	L1, L2, L2C, L5 | L1, L2, L2C, L3 E1, E5a, E5b, AltBOC, E6 | B1I, B1C, B2I, B2a, B2b[2], B3I L1, L2C, L5, L6[2] | L1[2], L5 WAAS, EGNOS, MSAS, GAGAN | L-Band, IP
Number of channels		555 (more signals, fast acquisition, high sensitivity)
GNSS antenna	Standard or Choke-ring	Leica AS10 / AS05 or Leica AR10 / AR20 / AR25

MEASUREMENT PERFORMANCE & ACCURACY[1]

Time for RTK initialisation		Typically 4 s
Real-time kinematic (Compliant to ISO17123-11 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 6 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	Typically 25 cm

COMMUNICATIONS

Communication ports	Lemo Bluetooth®	1 x USB and 2 x RS232 serial and Power Bluetooth® v2.00 + EDR, class 2
Communication protocols	RTK data protocols NMEA output Network RTK Security protocol	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) TLS 1.2
External data links	Up to 3 simultaneously	GSM / GPRS / UMTS / LTE / CDMA / VHF / UHF (up to 28800 bps over air) modem Phone / Radio modem in Leica GFU housing (IP67)

GENERAL

Field controller and software	Leica Captivate software Leica SmartWorx Viva software	Leica CS20 field controller, Leica CS35 tablet Leica CS10 and CS15 field controller
User interface	Buttons and LEDs Web server	On / Off and Function button, 8 status LEDs Full status information and configuration options
Data recording	Storage Data type and recording rate	Removable SD card, 8 GB Leica GNSS raw data and RINEX data up to 20 Hz
Power management	Internal power supply External power supply Operation time[3]	2 exchangeable Li-Ion batteries (6 Ah / 7.4 V) Nominal 12 V DC, range 10.5 - 28 V DC 15h receiving (Rx) data with UHF radio, 13 h transmitting data with UHF radio (1W), 14 h Rx / Tx data with phone modem
Weight and Dimensions	Weight	1.20 kg (GS10) / 5.40 kg standard RTK rover setup using pole and backpack
	Dimensions	212 mm x 166 mm x 79 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 2m 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 GS10 - GNSS RECEIVER	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		
5 Hz / 20 Hz positioning	✔ / ✔	✔ / ✔
Raw data / RINEX data logging / NMEA out	✔ / • / •	✔ / ✔ / ✔
ADDITIONAL FEATURES		
RTK reference station functionality	✔	✔

✔ 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] BeiDou B2b, QZSS L6 and NavIC L1 will be provided through future firmware upgrade.

[3] Might vary with temperature, age of battery, transmit power of data link device.

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