

Leica GS07

Data sheet



Engaging software

Leica Captivate field software is the perfect companion for the GS07. 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.



Seamlessly share data among all your instruments

Leica Infinity imports and combines data from your GNSS RTK rover, 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.

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- when it has to be **right**

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Leica GS07

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 99.95%
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		320 hardware channels

MEASUREMENT PERFORMANCE & ACCURACY¹

Time for RTK initialisation		Typically 6 s
Real-time kinematic (Compliant to ISO17123-8 standard)	Single baseline Network RTK	Hz 10 mm + 1 ppm / V 20 mm + 1 ppm Hz 10 mm + 0.5 ppm / V 20 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 + 0.5 ppm / V 6 mm + 0.5 ppm Hz 5 mm + 0.5 ppm / V 10 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 1
Communication protocols	RTK data protocols Network RTK	Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM VRS, FKP, iMAX, MAC (RTCM SC 104)
Built-in data links ⁴	3.75G GSM / UMTS / CDMA phone modem Radio modem	Fully integrated, internal antenna Fully integrated, receive, external antenna 403 - 473 MHz, up to 28800 bps over air
External data links		Bluetooth GSM / GPRS / UMTS / LTE / CDMA phone modem

GENERAL

Field controller and software	Leica Captivate software	Leica CS20 field controller
User interface	Buttons and LEDs	On / Off button, 3 status LEDs
Data recording	Storage ⁵ Data type and recording rate	Removable SD card Leica GNSS raw data and RINEX data at up to 5 Hz
Power management	Internal power supply External power supply Operation time ⁶	Exchangeable Li-Ion battery (2.6 Ah / 7.4 V) Nominal 12 V DC, range 10.5 - 28 V DC 8 h GNSS, 7 h receiving RTK data with CS modem
Weight and dimensions	Weight Diameter x Height	0.7 kg / 2.7 kg standard RTK rover setup on pole 186 mm x 71 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 IP66 / IP68 (IEC60529 / MIL STD 810G CHG-1 510.6 I / MIL STD 810G CHG-1 506.6 II / MIL STD 810G CHG-1 512.6 I) Withstands strong vibration (ISO9022-36-05 / MIL STD 810G 514.6 Cat.24) 95% (ISO9022-13-06 / ISO9022-12-04 / MIL STD 810G CHG-1 507.6 II) 40 g / 15 to 23 msec (MIL STD 810G 516.6 I)

LEICA GS07 - GNSS SMART ANTENNA

SUPPORTED GNSS SYSTEMS

Multi-frequency GPS / GLONASS / Galileo / BeiDou / QZSS	✓ ✓ ✓ ✓ ✓
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RTK PERFORMANCE

DGPS/RTCM, RTK Unlimited, Network RTK HxGN SmartNet Global	✓ •
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POSITION UPDATE & DATA RECORDING

5 Hz positioning Raw data / RINEX data logging	✓ ✓ ✓
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ADDITIONAL FEATURES⁴

3.75G GSM / GPRS / UMTS / CDMA phone modem UHF radio modem (receive only)	• •
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✓ 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 Depending on the used CS field controller and radio modem.

⁵ Data is recorded to the CS field controller.

⁶ Might vary with temperature, age of battery, transmit power of data link device.