Leica GS18 T

Data sheet





Engaging software

Leica Captivate field software is the perfect companion for the GS18 T. 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.

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.



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Leica GS18 T

GNSS TECHNOLOGY & SERVICES

| HACA SmartNet Global HACA SmartNet PP HACA SmartNet PRPP HACA Smart | | * | | |
|---|---|---|--|--|
| HoCk Smartketh PPP Listed SmartCheck Continuous offices of ERK Soutbool Signet tracking GP (GCAMSS) Galleon JeBibou GP (GCAMSS) Shart C | Self-learning GNSS | Leica RTKplus | Adaptive on-the-fly satellite selection | |
| ACCA Secretar PRP March Marc | HxGN SmartNet Global | | Network RTK and unlimited worldwide RTK bridging and PPP service | |
| Leck Semination Check Continuous check of Pilk Southinn Signal tracking Galleo in Belbou GZSS Navi Continuous Check of Pilk Southinn Shoot Terrostar Shoot Terrostar Navi Continuous Check Filk Southinn Shoot Terrostar Navi Continuous Check Filk Southinn Receiver Autonomous Integrity Monitoring Navi Continuous Check Filk Southinn Navi Continuo | | | | |
| Signal tracking | | | | 2 |
| Gallion jesilbou C2S hatefor C | | | | |
| RAM Necesiver Autonomous Integrity Monitories RAM Receiver Autonomous Integrity Monitories Romand of channels Till compensation Increased measurement productivity and tracebility Till compensation Increased measurement productivity and tracebility Till compensation Increased measurement productivity and tracebility Till compensation Red-time for KIK Incidington Red-time for KIK Incidington Red-time for KIK Incidington Red-time for MIX Incidington | Signal tracking | | | |
| SBAS Terrastate WANS, COOS, MASS, CACAN L-Band, IP ROMAN Review Authonomous integrity Months of charmes! Review Authonomous integrity Months of charmes! Review Authonomous integrity Months of charmes! Storage Authonomous Review Authonomous | | | | |
| RAMM Receiver Autonomous Integrity Monitoring Detection and demands of faulty satellite signs for enhanced position solution and CNSS integrity Number of channels Intropend misosurement productivity Calibration-free, Immune to magnetic disturbances Stiff Communication Stiff C | | | | |
| Number of channels Increased measurement productivity and traceobility Increased measurement productivity and traceobility Inter compensation Increased measurement productivity and traceobility Inter compensation Increased measurement productivity Inter compensation Inter static increased measurement productivity Inter compensation Inter Static inter static compensation Inter Static inter static compensation Inter Static inter static interpretation Inter static increased measurement productivity Inter Static interpretation Inter Static interpretation I | | | | |
| Till compensation Increased measurement productivity and traceability and | | Receiver Autonomous Integrity Monitoring | | |
| ### ADDRESS ### AD | | | | |
| MASAUREMY PERFORMANCE & ACCURACY Time for RTK initialisation Real-time for RTK initialisation RTK initi | Tilt compensation | | Calibration-free, Immune to magnetic disturbance | es |
| Real-time kinematic Compliant to 501723-8 standard) Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Real-time kinematic tilt compensated Real-time kinematic tilt compensated Not for static control points Real-time kinematic tilt compensated Real-time kinematic tilt compensate tilt till till till till till till ti | MEASUREMENT PERFORMANCE & AG | CCURACY ¹ | | |
| | Time for RTK initialisation | | Typically 4 s | |
| RTK bridging Up to 10 min bridging of RTK outages Wz 2.5 cm V 5 cm PPP Initial convergence to full accusacy typically 10 min. Reconvergence c 1 min Post processing State and apple datate (phase) with long observations of the phase of | Real-time kinematic (Compliant to ISO17123-8 standard) | | | |
| PRP Initial convergence to full accuracy typically 10 min. Re- convergence to 1 min | Real-time kinematic tilt compensated | Not for static control points | Additional Hz uncertainty typically less than 5 mm | n + 0.4 mm/° tilt down to 30° tilt |
| Static (phase with kine got bearsons \$1 amin \$1.2 mm + 0.1 ppm V.3.5 mm + 0.4 ppm \$1.2 mm + 0.5 ppm \$2.5 mm + 0.5 | RTK bridging | Up to 10 min bridging of RTK outages | Hz 2.5 cm V 5 cm | |
| Static and rapid static (phase) Hz 2 mm + 0.5 ppm V 5 mm + 0.5 ppm COMMUNICATIONS COMMUNICATIONS Communication ports Lemo Bluetooth® WLAN SEB and RS232 serial Bluetooth® v.A. (BLE & BR/EDR), class 1.5 SECULT bright for field control communication only Communication ports RTK data protocols NMEA output NMEA | PPP | | Hz 2.5 cm V 5 cm | |
| Code differential DCNSS Hz 25 cm V 50 cm COMMUNICATIONS Communication ports Lemo Bluetooth® WLAN USB and R5232 serial Bluetooth® v4.0 BLE & BR/EDR), class 1.5 802.11 b/gin for field control communication only Communication protocols RTX data protocols NMEA output NMEA 0183 v4.00 & v4.10 and Leica proprietary NEEWOK RTK NMEA 0183 v4.00 & v4.10 and Leica proprietary NEEWOK RTK V85, FRP, IMAX, MAC (RTKCTMS C. 104) Bullt-in LTE modem³ LTE frequency bands CSM frequency bands CSM frequency bands S. 3. 11.5 v. 2 6 10. 3 1 Bullt-in LHE modem³ Receive & transmit LHF radio modem 30 - 473 MHz, channel spacing 12.5 kHz, 20 kHz, 25 kHz, max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America), max. 1 W output power up to 28800 bps over air or 902 - 928 MHz (licence free in North America) Ball tendents of the second of the s | Post processing | Static (phase) with long observations | | |
| Communication ports Lemo I Bluetooth® I WLAN September 1 Description of the Control communication only Communication ports RTK data protocols RTK data protocols NMEA output NMEA output NMEA 0183 v.40 ov 4v.10 and lecia proprietary WES, FRP, MAX, MAC (RTCM SC, 124, 2, 3, 3, 3, 3, 14, 24 MSM) NMEA output NMEA 0183 v.40 ov 4v.10 and lecia proprietary WES, FRP, MAX, MAC (RTCM SC, 104) Built-in LTE modem* LTE frequency bands LUTH frequency bands L | Code differential | | | |
| Communication protocols RTK data protocols MRA output Network RTK WEST SEP, MRA, MAK (RTKN SC CMR, CMR, ENTR, ENTO, 2, 2, 3, 0, 3, 1, 3, 2 MSM NMEA output Network RTK WEST, FRP, MRAY, MAK (RTKN SC CMR) Built-in LTE modem³ LTE frequency bands CSM frequency band | COMMUNICATIONS | | | |
| Communication protocols RTK data protocols MNEA dustar NNEA output NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and tecta proprietary NNEA 0183 v. 20 06 v. 4u 10 and v | Communication ports | Lemo Bluetooth® WLAN | | |
| Built-in LTE modem³ LTE frequency bands CMS frequency | Communication protocols | NMEA output | Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3 NMEA 0183 v4.00 & v4.10 and Leica proprietary | |
| ERNEAL Field controller and software Leica CS20 field controller, Leica CS30 & CS35 tablets User interface Buttons and LEDs Web server Buttons and LEDs Web server Full status information and configuration options Data recording Storage Data type and recording rate Leica CNSS raw data and RINEX data at up to 20 Hz External power supply Operating time* Weight Dimensions Environmental Environmental Environmental Environmental Environmental Leica CS30 E CS35 tablets On / Off and Function button, 8 status LEDs Full status information and configuration options Environmental Weight Data type and recording rate Environmental Envi | Built-in LTE modem³ | UMTS frequency bands | 8, 3, 1 5, 4, 2 6, 19, 1 | |
| Field controller and software User interface Buttons and LEDs Web server Buttons and LEDs Web server Full status information and configuration options Full status information and configuration options Storage Data type and recording ate Data Data type and recording ate Data Data Data Data Data Data Data | Built-in UHF modem ⁴ | Receive & transmit UHF radio modem | | |
| User interface Buttons and LEDs Web server Full status information and configuration options Data recording Data recording Storage Data type and recording rate Leica GNSs raw data and RINEX data at up to 20 Hz Eleica GNSs raw data and RINEX data at up to 20 Hz Eleica GNSs raw data and RINEX data at up to 20 Hz Eleica GNSs raw data and RINEX data at up to 20 Hz Eleica GNSs raw data and RINEX data at up to 20 Hz Eleica GNSs raw data and RINEX data at up to 20 Hz Exchangeable Li-lon battery (1.2 8 Ah / 11.1 V) Nominal 12 V DC rapse 10.5 - 26.4 V DC Typical time up to 8 h 1.23 kg / 3.53 kg standard RTK rover setup on pole The presentation of the proof against water, sand and dust vibration with stands strong ver from a 2 ms unvey pole onto hard surfaces in Proof against water, sand and dust vibration with stands strong vibration (1509022-36-08) IML STD 810G CHG-1 510.6 (1) With stands strong vibration (1509022-36-08) IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022-12-04 IML STD 810G GHG-1 512.6 (1) With stands strong vibration (1509022 | GENERAL | | | |
| Meb server Full status information and configuration options | Field controller and software | Leica Captivate software | Leica CS20 field controller, Leica CS30 & CS35 tal | blets |
| Data Type and recording rate Leica GMSS raw data and RINEX data at up to 20 Hz | User interface | | | |
| External power supply Operating times | Data recording | | | Hz |
| Environmental Temperature Drop Proof against water, sand and dust Vibration Humidity Vibration Humidity Functional shock ELECA GS18 T GNSS RTK ROVER ENVIRONMENTAL STD 810G CHG-1 510.6 I MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-13-06 ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO902-12-04 MIL STD 810G CHG-1 507.6 II) 95% (ISO9022-12-04 MIL S | Power management | External power supply | Nominal 12 V DC, range 10.5 - 26.4 V DC | |
| Drop Proof against water, sand and dust Proof 506.6 II MIL STD 810G CHG-1 510.6 II MIL STD 810G CHG-1 507.6 III Withstands strong wibration (ISO9022-13-04 MIL STD 810G CHG-1 507.6 III Ada (HIL STD 810G CHG-1 507.6 III Proof 510.6 II MIL STD 810G CHG-1 500.6 I | Weight and dimensions | | | ble |
| SUPPORTED CNSS SYSTEMS Multi-frequency GPS / GLONASS / Galileo / BeiDou / QZSS V / · / · / · V V V V V V V V V V V V V | Environmental | Drop Proof against water, sand and dust Vibration Humidity | Withstands topple over from a 2 m survey pole o IP66 IP68 IEC60529 MIL STD 810G CHG-1 510 MIL STD 810G CHG-1 510 MIL STD 810G CHG-1 506.6 II MIL STD 810G CHG Withstands strong vibration (IS09022-36-08 MI 95% (IS09022-13-06 IS09022-12-04 MIL STD | .6 G-1 512.6) L STD 810G 514.6 Cat.24) |
| Multi-frequency GPS / GLONASS / Galileo / BeiDou / QZSS V / V / V / V / V / V / V / V / V / V | LEICA GS18 T GNSS RTK ROVER | PE | RFORMANCE | UNLIMITED |
| 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 Tilt compensation RTK reference station functionality V / V | SUPPORTED GNSS SYSTEMS | | | |
| RTK PERFORMANCE DGPS/RTCM, RTK Unlimited, Network RTK LKCN SmartNet Global POSITION UPDATE & DATA RECORDING 20 Hz positioning V ADDITIONAL FEATURES Tilt compensation LKCN SmartNet Global V RTK reference station functionality | | | | |
| DGPS/RTCM, RTK Unlimited, Network RTK *** *** *** *** ** *** *** | | 55 | V / · / · / · / · | VIVIVIV |
| HxGN SmartNet Global | | TK | ~ | · · · · · · · · · · · · · · · · · · · |
| 20 Hz positioning Raw data / RINEX data logging / NMEA out ADDITIONAL FEATURES Tilt compensation K V K V K V K V K V K V K V K | | | | • |
| Raw data / RINEX data logging / NMEA out ADDITIONAL FEATURES Tilt compensation RTK reference station functionality V V | | ING | | |
| ADDITIONAL FEATURES Tilt compensation RTK reference station functionality | | | | |
| Tilt compensation RTK reference station functionality v v | | out | VI-I- | VIVIV |
| RTK reference station functionality | | | ~ | |
| | | | | |
| | | smit) modem | ν/· | v/· |

³ Depending on version. In order Europe | NAFTA | Japan version

 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. $^{\rm 2}$ QZSS L6 will be provided through future firmware upgrade.

communication devices.

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Leica Geosystems AG

Heinrich-Wild-Strasse 9435 Heerbrugg, Switzerland +41 71 727 31 31



✓ Standard • Optional