

# GS18 T

## RECEPTORES GNSS

### GNSS TECHNOLOGY

Self-learning GNSS	Leica RTKplus SmartLink (worldwide correction service)  SmartLink fill (worldwide correction service)	Adaptive on-the-fly satellite selection Remote precise point positioning (3 cm 2D) <sup>1</sup> Initial convergence to full accuracy typically 18 min, Re-convergence < 1 min Bridging of RTK outages up to 10 min (3 cm 2D) <sup>1</sup>
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.99%
Signal tracking		GPS (L1, L2, L2C, L5), Glonass (L1, L2, L2C, L32), BeiDou (B1, B2, B32), Galileo (E1, E5a, E5b, Alt-BOC, E62), QZSS (L1, L2C, L5, L62), NavIC L53, SBAS (WAAS, EGNOS, MSAS, GAGAN), L-band
Number of channels		555 (more signals, fast acquisition, high sensitivity)
Tilt compensation	Increased measurement productivity and traceability	Calibration-free Immune to magnetic disturbances

### MEASUREMENT PERFORMANCE & ACCURACY<sup>1</sup>

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
Real-time kinematic tilt compensated	Topographic points (not for static control points)	Additional Hz pole tip uncertainty typically less than 8 mm + 0.4 mm/° tilt down to 30° tilt
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® v2.1 + EDR, class 1.5
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 v4.00 and Leica proprietary VRS, FKP, iMAX, MAC (RTCM SC 104)
Built-in data links	GSM / UMTS / LTE phone modem Radio modem	Fully integrated, external 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 / LTE / CDMA and UHF / VHF modem

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### 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, 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 at up to 20 Hz
Power management	Internal power supply External power supply Operation time <sup>4</sup>	Exchangeable Li-Ion battery (2.8 Ah / 11.1 V) Nominal 12 V DC, range 10.5 - 26.4 V DC 7h 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 Dimensions	1.20 kg / 3.50 kg standard RTK rover setup on pole 173 mm x 173 mm x 108 mm
Environmental	Temperature Drop Proof against water, sand and dust  Vibration Humidity Functional shock	-40 to 65°C operating, -40 to 85°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 (ISO9022-36-08 / 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 GS18 T GNSS RTK ROVER	PERFORMANCE	UNLIMITED
<b>SUPPORTED GNSS SYSTEMS</b>		
Multi-frequency	✓	✓
GPS / GLONASS / Galileo / BeiDou / QZSS	✓ / • / • / • / •	✓ / ✓ / ✓ / ✓ / ✓
<b>SUPPORTED GNSS SYSTEMS</b>		
DGPS/RTCM, RTK Unlimited, Network RTK	✓	✓
SmartLink fill / SmartLink	• / •	✓ / •
<b>POSITION UPDATE &amp; DATA RECORDING</b>		
5 Hz / 20 Hz positioning	✓ / ✓	✓ / ✓
Raw data / RINEX data logging / NMEA out	✓ / • / •	✓ / ✓ / ✓
<b>ADDITIONAL FEATURES</b>		
Tilt compensation	✓	✓
RTK reference station functionality	✓	✓
LTE Phone / UHF Radio (receive & transmit) modem	✓ / •	✓ / •

✓ Standard • Optional