Leica GS05
Data sheet

Lightweight, but feature heavy

Small enough to fit in the palm of your hand and barely noticeable on top of your pole, the GS05 packs a lot of tech into just 0.75 kilograms. With 4G, UHF radio, a 10-hour internal battery, tilt compensation, and IP-rated durability, you'll be amazed at what this lightweight powerhouse is capable of.

Tilt compensating

The GS05 includes Leica Geosystems' proven tilt compensation, which is both calibration-free and immune to magnetic disturbances.
Forget the bubble and focus on the task at hand, saving time and effort. Measure points without breaking stride and stake points quicker and simpler than ever.

Trustworthy

The GS05 is built on Leica Geosystems' reputation for quality. It seamlessly integrates with Leica Captivate field software, Captivate tablets and controllers, Leica Infinity, and GeoCloud Drive, and can even be combined with total station operation as a SmartPole. Maintenance, service and support are all available through Active Customer Care.

Leica GS05

GNSS TECHNOLOGY & SERVICES		
Self-learning GNSS	Leica RTKplus	Adaptive on-the-fly satellite selection
HxGN SmartNet Global	HxGN SmartNet NRTK GS05	Network RTK with Sensor ID authentication
Leica SmartCheck	Continuous check of RTK solution	Reliability 99.95%
Signal tracking	GPS | GLONASS	L1, L2C | L1, L2C
	Galileo | BeiDou	E1, E5b | B1I, B2I
	QZSS	L1, L2C
	SBAS	Enabled through future firmware updates
Number of channels		184
Tilt compensation[1]	Increased measurement productivity and traceability	Calibration-free, Immune to magnetic disturbances, up to 30° tilt
MEASUREMENT PERFORMANCE & ACCURACY[2]		
Time for RTK initialisation		Typically 6 s
Real-time kinematic (Compliant to ISO17123-8 standard)	Single baseline	Hz 10 mm + 1 ppm | V 20 mm + 1 ppm
	Network RTK	Hz 10 mm + 0.5 ppm | V 20 mm + 0.5 ppm
Real-time kinematic tilt compensated	Not for static control points	Additional Hz uncertainty less than 1.5 cm down to 30° tilt
Post processing	Static (phase) with long observations	Hz 3 mm + 0.5 ppm | V 6 mm + 0.5 ppm
	Static and rapid static (phase)	Hz 5 mm + 0.5 ppm | V 10 mm + 0.5 ppm
Code differential	DGNSS	Hz 25 cm | V 50 cm
COMMUNICATIONS		
Communication ports	USB | Bluetooth® | WLAN	USB-C | Bluetooth® v5.2 (BLE & BR/EDR), class 1 & 2 | 802.11 b/g/n
Communication protocols	RTK data protocols	Leica, Leica 4G, CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM[3]
	NMEA output	NMEA 0183 v4.00 & v4.10 and Leica proprietary
	Network RTK	VRS, FKP, iMAX, MAC (RTCM SC 104)
Built-in LTE modem[4]	LTE frequency bands[5]	1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 27, 28, 66, 85 | 1, 2, 3, 4, 5, 7, 8, 20, 28, 34, 38, 39, 40, 41, 66
Built-in UHF modem[6]	Receive & transmit UHF radio modem	UHF: 413 - 473 MHz
GENERAL		
Field controller and software	Leica Captivate software	Leica CS20 field controller, Leica CS30, CC180 & CC200 tablets
User interface	Buttons and LEDs	On / Off button, 3 status LEDs
Data recording	Storage	Available internal memory up to 4 GB
	Data type and recording rate	Leica GNSS raw data and RINEX data at up to 10 Hz
Power management	Internal power supply	Internal Li-Ion battery (6.0 Ah / 3.6 V)
	External power supply	USB-C 5V chargable
	Operating time[7]	Typical time up to 10 hours
Weight and dimensions	Weight	0.75 kg / 2.82 kg standard RTK rover setup on pole (using CS30)
	Dimensions	118.9 mm x 118.9 mm x 75.5 mm
Environmental	Temperature	-30 to +55°C operating with internal power -40 to +65°C operating with external power -40 to +80°C storage
	Drop	Withstands topple over from a 2 m survey pole onto hard surfaces
	Proof against water, sand and dust	IP66 | IP68 (IEC60529 | MIL STD 810H 506.6 Proc II | MIL STD 810H 512.6 Proc I | MIL STD 810H 510.7 Proc II)
	Vibration	Withstands strong vibration (ISO9022-36-08-2; ISO 9022-3:2022(E))
	Humidity	95% (ISO9022-12-04-2; ISO 9022-2: 2015/Amd1:2023(E) | MIL STD 810H 507.6)
	Bump	ISO 9022-31-08-1; ISO 9022-3: 2022(E)

[1] Enabled with article 1006940 - GS05 Tilt Compensation.
[2] 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.
[3] RTCM 3.2 MSM is the RTK data protocol supported when UHF is being used in Base or Rover mode.
[4] Available for the GS05 LTE variants only.
[5] Depending on the version. In order LTE Worldwide variant | LTE Regional variant.
[6] Available for the GS05 UHF variants only.
[7] Might vary with temperature, age of battery, transmit power of data link device and use of wireless communication devices.

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- when it has to be **right**

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