

Leica Viva GNSS GS15 receiver Datasheet



Proven GNSS technology

Built on years of knowledge and experience, the Leica GS15 delivers the hallmarks of Leica GNSS – reliability and accuracy.

- SmartCheck – RTK data-processing to guarantee correct results
- SmartTrack – advanced four constellation tracking of all GNSS satellites today and tomorrow
- SmartRTK – delivers consistent results in all networks



Work as you want to

The Leica GS15 is designed to suit any surveying task.

- Built-in exchangeable communication devices for field base stations and RTK rovers with removable SIM cards
- Fully scalable sensor allows you to buy only what you need today and upgrade with additional functionality as you need it
- Integrated web server to configure the logging of Leica or RINEX raw data and measure with one button press in the field



Rugged

The Leica GS15 is built for the most demanding environments.

- IP67 protection against dust and immersion to 1 m
- Built for extreme temperatures of -40° C to +65° C
- Integrated antenna technology to avoid breaking, losing or forgetting antenna

- when it has to be **right**

Leica
Geosystems

Leica GS15 GNSS receiver

Hardware



Weight & Dimensions	
Weight (GS15)	1.34 kg
Weight	3.30 kg standard RTK rover including slot RTK device, controller, batteries pole and bracket
Dimension (GS15) (diameter x height)	196 mm x 198 mm
Environmental specifications	
Temperature, operating	-40° C to +65° C, compliance with ISO9022-10-08, ISO9022-11-special, MIL STD 810F - 502.4-II, MIL STD 810F - 501.4-II
Temperature, storage	-40° C to +80° C, compliance with ISO9022-10-08, ISO9022-11-special, MIL STD 810F - 502.4-II, MIL STD 810F - 501.4-II
Humidity	100%, compliance with ISO9022-13-06, ISO9022-12-04 and MIL STD 810F - 507.4-I
Proof against: water, sand and dust	IP67 according IEC60529 and MIL STD 810F - 506.4-I, MIL STD 810F - 510.4-I and MIL STD 810F - 512.4-I Protected against blowing rain and dust Protected against temporary submersion into water (max. depth 1 m)
Vibration	Withstands strong vibration during operating, compliance with ISO9022-36-08 and MIL STD 810F - 514.5-Cat.24
Drops	Withstands 1.0 m drop onto hard surfaces
Functional shock	40 g / 15 to 23 msec, compliance with MIL STD 810F - 516.5-I No loss of lock to satellite signal when used on a pole set-up and submitted to pole bumps up to 150 mm
Topple over	Withstands topple over from a 2 m survey pole onto hard surfaces
Power & Electrical	
Supply voltage	Nominal 12 V DC Range 10.5 - 28 V DC
Power consumption	Typically: 3.2 W, 270 mA
Internal power supply	Recharge & removable Li-Ion battery, 2.6 Ah / 7.4 V, 2 batteries fit into receiver
Internal power supply, operation time	<ul style="list-style-type: none"> • 10.00 h receiving RTK data with standard radio⁴ • 9.00 h transmitting RTK data with standard radio⁴ • 7.50 h RTK via GSM/GPRS connection⁴ using 2 internal batteries
External power supply	Rechargeable external NiMH battery 9 Ah / 12 V
Certifications	Compliance to: FCC, CE Local approvals (as IC Canada, C-Tick Australia, Japan, China)

Memory & Data Recording



Memory	
Memory medium	Removable SD Card: 1 GB
Data capacity	1 GB is typically sufficient for about GPS & GLONASS (8+4 satellites) 280 days raw data logging at 15 s rate
Data recording	
Type of data	Onboard recording of: <ul style="list-style-type: none"> • Leica GNSS raw data • RINEX data
Recording rate	Up to 20 Hz

User Interface



Buttons	<ul style="list-style-type: none"> • ON / OFF button • Function button
Button functionality	Function button: <ul style="list-style-type: none"> • Easy switch between Rover / Base mode • Easy "Here" positioning functionality
Led status indicator	Bluetooth®, position, RTK status, data logging, detailed power status
Additional user interface	Additional web interface functionality provides full status indicator and configuration options

Communications



Communication ports	1 x serial RS232 Lemo 1 x USB / RS232 Lemo 1 x UART serial & USB (for removable internal RTK devices) 1 x Bluetooth® port, Bluetooth® v2.00+ EDR, class 2
No. of simultaneous data links	<ul style="list-style-type: none"> • Up to 3 data links can be attached and used simultaneously • 2 real-time output interfaces via independent ports, providing identical or different RTK/RTCM formats
Built in data links	
Radio modems	<ul style="list-style-type: none"> • Fully integrated, fully sealed receive / transmit radios • User exchangeable device • SATEL, Pacific Crest and others • 390 - 470 MHz bandwidth • Transmit power: 0.5 - 1.0 W
UHF antenna options	<ul style="list-style-type: none"> • Fully integrated UHF antenna • External UHF antenna connector (Type QN)
3G GSM / UMTS(HSDPA) phone modem	<ul style="list-style-type: none"> • Fully integrated, fully sealed phone modem • User exchangeable device • User exchangeable SIM card • Tri-Band UMTS / HSDPA: 850 / 1900 / 2100 MHz • Quad-Band GSM / GPRS: 850 / 900 / 1800 / 1900 MHz
CDMA phone modem	<ul style="list-style-type: none"> • Fully integrated, fully sealed CDMA phone modem • User exchangeable device • Dual-Band CDMA 1XRTT (800 / 1900 MHz)
GSM / UMTS / CDMA antenna options	<ul style="list-style-type: none"> • Integrated GSM / UMTS / CDMA antenna • External GSM / UMTS / CDMA antenna connector (Type QN)
External data links	
Radio modems	Support of any suitable UHF / VHF radio
GSM / UMTS / CDMA phone modems	Support of any suitable GSM / GPRS / UMTS / CDMA modem
Landline phone modems	Support of any suitable Landline phone modem
Communication protocols	
Real-Time data formats for data transmission and reception	Leica proprietary formats (Leica, Leica 4G) CMR, CMR+
Real-Time data formats according RTCM standard for data transmission and reception	RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1
NMEA output	NMEA 0183 V 2.20 and Leica proprietary

Whether you want to stake-out an object on a construction site or you need accurate measurements of a tunnel or a bridge; whether you want to determine the area of a parcel of land or need the position of a power pole or to capture objects for as-built maps – you need reliable and precise data.

Leica Viva combines a wide range of innovative products designed to meet the daily challenges for all positioning tasks. The simple yet powerful and versatile Leica Viva hardware and software innovations are redefining state-of-the-art technology to deliver maximum performance and productivity. Leica Viva gives you the inspiration to make your ambitious visions come true.

When it has to be right.

 **Swiss Technology**
by Leica Geosystems

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