

# Leica Viva GNSS GS08plus receiver Datasheet



## Built for the Field

Designed for the extreme environments, light-weight and cable-free. The GS08plus receiver is the right choice for a wide range of tasks.

- n Integrated 3.5G mobile broadband for high-speed connection in the field
- n Optional UHF radio module for RTK data communication
- n IP67 and operating temperature -30 °C to +60 °C
- n Tactile, fully illuminated, numeric rubber keypad
- n 2 Megapixel camera (perfectly placed for taking pictures when in hand or mounted on pole)



## Proven GNSS technology

Built on years of knowledge and experience, the GS08plus receiver delivers the hallmarks of Leica GNSS – reliability and accuracy.

- n SmartCheck – Constantly evaluates and re-verifies your RTK solution to ensure the most reliable RTK measurements
- n SmartTrack – Antenna, GNSS board and firmware deliver the highest quality of signals



## Simply productive surveying software

With clear graphics, non-technological terminology and simplified workflows. SmartWorx Viva LT is incredibly easy to use.

- n Survey, coding and linework
- n Full support of RTCM 3.1 transformation message
- n Wide range of apps for all surveying and staking tasks

# Technical Specifications

Leica GS08plus SmartAntenna	
<b>CS10 Field Controller</b>	
Operating System	Microsoft Windows CE 6.0
Processor	Freescale iMX31 533 MHz ARM Core with 512 MB DDR SDRAM
Display	8.9 cm (3.5") 640 x 480 pixel (VGA) colour touch screen, sunlight-readable, backlight
Keyboard	26 keys, numeric keypad, fully illuminated
Data storage	1 GB internal flash, SD-card slot, CF-card Type I / II slot, USB connector port
Audio	Integrated sealed speaker and microphone
Camera	Integrated 2 Megapixel fixed focus camera
Wireless connectivity	Bluetooth® 2.0 Class 2, Wireless LAN 802.11b/g (option), high speed broadband 3.5G GSM & UMTS (option), UHF radio module (option)
Application Software	Leica SmartWorx Viva LT
Standard Software	Internet Explorer Mobile, File Explorer, Word Mobile, Windows Media Player, Camera Software, Online Help
<b>GS08plus SmartAntenna</b>	
GNSS technology	Leica SmartTrack technology: <ul style="list-style-type: none"> <li>• Advanced measurement engine</li> <li>• Jamming resistant measurements</li> <li>• High precision pulse aperture multipath correlator for pseudorange measurements</li> </ul>
No. of channels	120 channels
Satellite signals tracking	GPS: L1, L2, L2C (C/A, P, C Code) GLONASS: L1, L2 (C/A, P narrow Code) SBAS: WAAS, EGNOS, GAGAN, MSAS
User interface	On / Off key, Satellite tracking, Bluetooth® communication & battery power LED status indicators
Communication ports	Bluetooth® 2.0 Class 2, 8-pin Lemo combined USB / power port
Field controller connection	By Bluetooth® or with GEV237 Lemo plug cable
<b>Accuracy and reliability</b> <sup>1</sup>	
RTK Static mode	Horizontal: 5 mm + 0.5 ppm (rms) Vertical: 10 mm + 0.5 ppm (rms) Compliant to ISO 17123-8 standard
RTK Moving mode	Horizontal: 10 mm + 1 ppm (rms) Vertical: 20 mm + 1 ppm (rms)
Post Processing static mode	Horizontal: 3 mm + 0.5 ppm (rms) Vertical: 6 mm + 0.5 ppm (rms)
Reliability	Better than 99,9 % using Leica SmartCheck technology
Time for initialisation	Typically 6 sec <sup>2</sup>
<b>Real time kinematic specifications</b>	
RTK data formats	Leica proprietary formats (Leica, Leica 4G), CMR+, RTCM2.x, RTCM3.x, full support of RTCM 3.1 transformation messages
Position update rate	1 Hz standard, Optional 5 Hz (0.2 sec)
Network positioning	VRS, FKP, iMAX, MAX, Nearest Station
RTK base station (option)	Transmit RTCM3 RTK data at 1 Hz (1 sec)
<b>Physical specifications</b>	
Weight of pole setup	2.60 kg for complete rover setup, including batteries and telescopic pole
Temperature, operating	-30°C to +60°C (-22°F to +140°F), GS08plus only: -40°C to +65°C (-40°F to +149°F) <sup>3</sup>
Temperature, storage	-40°C to +80°C (-40°F to +176°F) <sup>3</sup>
Humidity	100 % <sup>4</sup>
Sealed against water, sand and dust	IP67: Temporary submersion into water (max. depth 1m) Protected against blowing rain and dust
Vibration	Withstands vibrations in compliance with ISO9022-36-05
Drops	Withstands 1 m drop onto hard surface
Topple over	Withstands topple over from a 2 m survey pole onto hard surface
Functional shock	No loss of lock to satellite signals when used on a pole setup and submitted to pole bumps up to 100 mm
<b>Power management</b>	
Supply Voltage	Nominal 12V DC, Range 10.5 – 28V DC
Internal power supply	Removable & rechargeable Li-Ion battery, 2.6 Ah / 7.4 V (1x in CS10 and 1x in GS08plus)
Operation time	10 hours GNSS only, 7 hours GNSS RTK
Battery charging	2 hours with GKL211 charger or with GEV235 field controller power supply

<sup>1</sup> Measurement precision, accuracy and reliability are dependent upon various factors including number of satellites, geometry, obstructions, observation time, ephemeris accuracy, ionospheric conditions, multipath etc. Figures quoted assume normal to favorable conditions. GPS and GLONASS can increase performance and accuracy by up to 30% relative to GPS only.

<sup>2</sup> May vary due to atmospheric conditions, multipath, obstructions, signal geometry and number of tracked signals.

<sup>3</sup> Compliance with ISO9022-10-08, ISO9022-11-special and MIL-STD 810G Method 502.5-II, MIL-STD 810G Method 501.5-II, MIL-STD 810G Method 502.5-I, MIL-STD 810G Method 501.5-I

<sup>4</sup> Compliance with ISO9022-13-06, ISO9022-12-04 and MIL-STD 810G Method 507.5-I

<sup>5</sup> May vary with temperature, battery age and power of RTK of data link device.



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- when it has to be **right**

