Leica GMX902 GG
Streamlined GNSS Monitoring for Critical Structures

GNSS

Leica GMX902 GG
GPS/GLONASS Monitoring Receiver

The Leica GMX902 GG is the first high precision dual frequency GNSS receiver designed specifically for monitoring applications. Sensitive structures, such as bridges, dams, sliding slopes and buildings can be monitored around the clock for the smallest of movements.
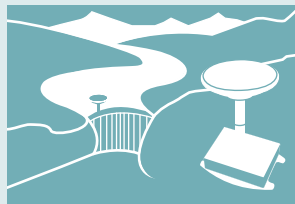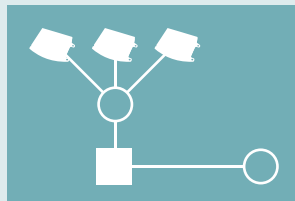
Tailored for Monitoring
- Low power consumption
- Robust
- Designed for continuous measuring operations

20^{Hz}

Fast and Precise
- Detects high-dynamic movements, data rate up to 20 Hz
- 72 channel, L1/L2, code and phase
- SmartTrack+ technology for high precision

Integrated
- Metal housing, easy assembly
- Integrated into Leica GNSS Spider, GeoMoS and GNSS QC software
- PPS output for the synchronization of accelerometers

- when it has to be **right**

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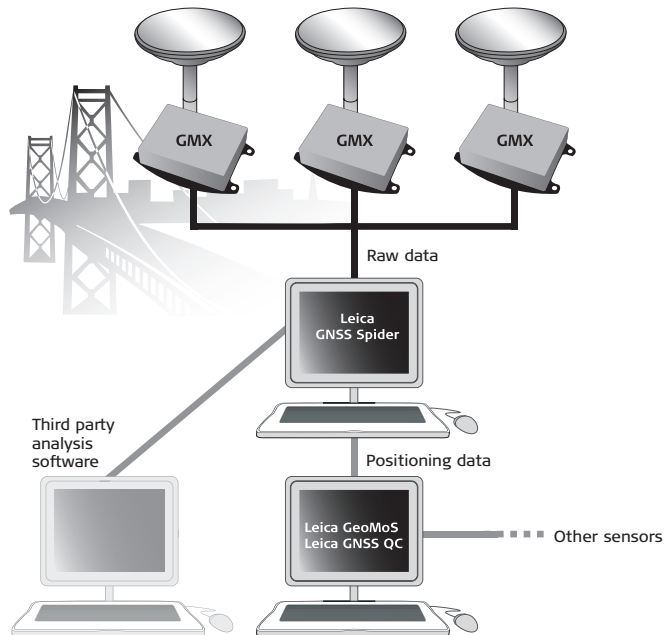## Geosystems

Precise Data Capture of Fast Moving Objects

The Leica GMX902 GG is a high-performance GNSS receiver, specially developed to monitor sensitive structures such as bridges, dams and crucial topographies such as sliding slopes and volcanoes. It provides precise GPS/GLONASS dual frequency raw data (up to 20 Hz), enabling precise data capture of fast moving objects.

Focused on the essentials

Designed with a focus on the essential – the reception and transmission of high quality raw data – the Leica GMX902 GG does not include costly extra functions, therefore it is a universal receiver for structural monitoring. It has a robust water, heat, cold and vibration resistant metal housing that can be easily mounted on the various structures.

Integrated Solution

When combined with the Leica GNSS Spider advanced GPS & GLONASS processing software for coordinate calculation and raw data storage and the Leica GeoMoS or Leica GNSS QC monitoring software for analysis of movements and calculation of limit checks, the Leica GMX902 GG unfolds its full potential: high-precision measurements, accurate and reliable data processing and data analysis. Third party analysis software can also be easily integrated via the standard NMEA interface of Leica GNSS Spider.

**Total Quality Management
– Our commitment to total customer satisfaction.**
Find out more about out TQM program from your local Leica Geosystems representative.

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Heerbrugg, Switzerland

www.leica-geosystems.com

Technical data Leica GMX902 GG

GNSS technology	SmartTrack+
Type, channels	Dual frequency, 14 L1 + 14 L2 GPS, 12 L1 + 12 L2 GLONASS, 20 Hz
L1 measurements	Carrier phase full wave length, C/A narrow code.
L2 measurements	Carrier phase full wave length, AS off or on P2 code / P-code aided under AS. Equal performance with AS off or on.
SmartTrack+ Advanced GNSS measurement technology	Time to acquire all satellites after switching on: typically 30 sec. Re-acquisition after loss of lock: typically within 1 sec. High sensitivity: acquires more than 99 % of possible observations above 10 degrees elevation. Low signal noise. Robust tracking. Tracks weak signals to low elevations. Multipath mitigation. Jamming resistant.
Measurement precision	
Carrier phase	L1: 0.2 mm rms L2: 0.2 mm rms
Code (pseudorange)	L1: 20 mm rms L2: 20 mm rms
Status LEDs	Power, tracking, traffic on serial ports
Control software (required)	Leica GNSS Spider. For managing single and multiple receivers, for computing positions, and for creating RINEX files for post-processing.
Data output	Leica binary (LB2) raw data, independent for each serial port
Weight	0.8 kg
Size (L x W x D)	16.7 cm x 12.3 cm x 4.0 cm
Temperature range	ISO9022, MIL-STD-810F
Operating	-40° C to +65° C
Storage	-40° C to +80° C
Humidity	Up to 95 %
Rain, dust, sand, wind	IP67 – Protection against blowing rain and dust Waterproof to temporary submersion into water (1 m)
Vibration	10 Hz – 500 Hz, 0.7 mm, 5 g
Bump	25 g, 6 ms
Supply voltage	Nominal 12 V DC
External power input	10.5 V to 28 V DC
Power ports	2
Power consumption	2.0 W, sleep mode 0.007 W
Ports	
External Power	1 LEMO connector with 2 power inputs (y-cable)
Serial	2 LEMO-1 connectors, 8-pin, 4800 – 115'200 baud
Antenna	1 TNC
PPS output	1 LEMO HGP.0S.250.CTL
Recommended antenna	Leica AX1202 GG, Leica AT504 GG

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