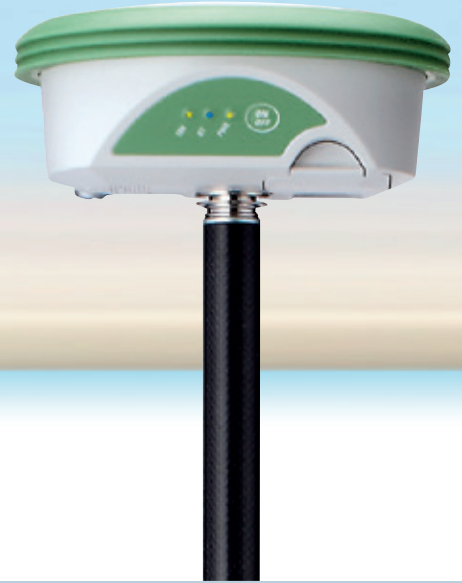


Leica Viva GNSS GS12 receiver



Proven GNSS Technology

Built on years of knowledge and experience, the Leica GS12 delivers the hallmarks of Leica GNSS – reliability and accuracy.

- SmartCheck – RTK data-processing to guarantee correct results
- SmartTrack – best measurement data quality in all environments
- SmartRTK – delivers consistent results in all networks



Light Weight and full functionality

The Leica GS12 delivers ultimate ergonomics through extreme light weight.

- Weight of only 1kg for ergonomic handling with ideal balance
- Fully scalable sensor allows you to buy only what you need today and upgrade with additional functionality as you need it
- Full RTK connectivity together with Leica Viva CS10/CS15 using UMTS, GPRS, GSM or CGR radio devices



Rugged

The Leica GS12 is built for the most demanding environments.

- IP68 protection against dust and continuous immersion
- Withstands 2m pole topple over test
- Built for extreme temperatures of -40°C to $+65^{\circ}\text{C}$
- Complete cable free operation

Technical Specifications



GNSS Technology



Advanced measurement engine

Leica patented SmartTrack technology

- Jamming resistant measurements
- High precision pulse aperture multipath correlator
- Excellent low elevation tracking technology
- Very low noise GNSS carrier phase measurements with < 0.5 mm precision
- Minimum acquisition time

No. of channels

120 channels

Max. simultaneous tracked satellites

Up to 60 Satellites simultaneously on two frequencies

Reacquisition time

< 1 sec

GNSS Measurements

Satellite signals tracking

GPS: L1, L2, L2C, L5 (C/A, P, C Code)
GLONASS: L1, L2 (C/A, P narrow Code); Galileo (Test): GIOVE-A, GIOVE -B; Galileo: E1, E5a, E5b, Alt-BOC; SBAS: WAAS, EGNOS, GAGAN, MSAS

Measurement Performance



Accuracy (rms)¹

DGPS/RTCM

Typically 25 cm

Single Baseline (< 30 km)

Horizontal: 8 mm + 1 ppm
Vertical: 15 mm + 1 ppm

Network RTK

Horizontal: 8 mm + 0.5 ppm
Vertical: 15 mm + 0.5 ppm

Post Processing (phase)

Horizontal: 3 mm + 0.1 ppm

Static with long observations

Vertical: 3.5 mm + 0.4 ppm

Post Processing (phase)

Horizontal: 3 mm + 0.5 ppm

Rapid static mode

Vertical: 5 mm + 0.5 ppm

On-The-Fly initialization

Reliability¹

Better than 99,99% using Leica SmartCheck technology

Time for initialization

Typically 4 sec²

RTK baseline range

up to 70 km

Data recording

Recording rate

Up to 20 Hz

Hardware



User Interface

Keys

On / Off key

Led Status indicator

Satellite tracking, *Bluetooth*® communication and battery power

Communication ports

- Combined USB / Power port with 8-pin Lemo plug
- Integrated *Bluetooth*® port
- 5-pin clip on contacts for Leica SmartStation setup

Communication protocols

Real-Time data formats for data transmission

RTCM 3

Real-Time data formats for data reception

Leica proprietary formats (Leica, Leica 4G), CMR, CMR+, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 MSM
Full support of RTCM 3 Transformation Message

Physical

Weight

1.05 kg including battery

Dimension (diameter x height)

186 mm x 89 mm

Environmental specifications

Temperature, operating

-40° C to +65° C, compliance with ISO9022-10-08, ISO9022-11-special, MIL STD 810G Method 502.5 II, MIL STD 810G Method 501.5 II

Temperature, storage

-40° C to +80° C, compliance with ISO9022-10-08, ISO9022-11-special, MIL STD 810G Method 502.5 I, MIL STD 810G Method 501.5 I

Humidity

100%, compliance with ISO9022-13-06, ISO9022-12-04 and MIL STD 810G Method 507.5 I

Sealed against water, sand and dust

IP68 according IEC60529 and MIL STD 810G Method 506.5 I, MIL STD 810G Method 510.5 I and MIL STD 810G Method 512.5 I
Protected against blowing rain and dust
Protected against temporary submersion into water (max. depth 1,4 m)

Vibration

Withstands vibrations in compliance with ISO9022-36-08 and MIL STD 810G Method 514.6-Cat.24

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 150 mm

Power management

Supply voltage

Nominal 12 V DC, Range 10.5 – 28 V DC

Internal Power supply

Removable & rechargeable Li-Ion battery, GEB212 2.6 Ah / 7.4 V

Operation time

Up to 7 hours³