

# Leica Zeno GG04

## Data sheet



### Smart Device Independence

Using the Zeno GG04 smart antenna with your own device is simple, regardless if it runs on Android or Windows® platforms. Now you can feel right at home while carrying out your data collection tasks. Bluetooth® connectivity ensures cable free operation and high accuracy configuration is easy with just a few clicks in the Zeno Connect application.



### Precise Point Positioning (PPP)

PPP enables the GG04 to achieve high accuracy data collection without the need for a mobile data connection. PPP works by using a satellite based correction service to broadcast data directly to the GG04. Corrected data is processed onboard the antenna and delivered seamlessly to your device. PPP is available anywhere in the world at any time.



### Extensive Software Support

Not only will the Zeno GG04 smart antenna work with Leica Zeno Mobile and Zeno Field software, but also with other popular data collection apps and software. No development efforts are required to achieve centimeter accurate positioning.



[leica-geosystems.com](http://leica-geosystems.com)



- when it has to be **right**

**Leica**  
Geosystems

# Technical Specifications

## LEICA ZENO GG04 | GNSS TECHNOLOGY

|   |   |
|---|---|
| Number of channels                                      | 555 channels<br>(more signals, fast acquisition, high sensitivity)  |
| Satellite signal tracking                               | GPS (L1, L2, L2C, L5), Glonass (L1, L2), BeiDou (B1, B2, B3 <sup>1</sup> ), Galileo (E1, E5a, E5b, Alt-BOC, E6 <sup>1</sup> ), QZSS <sup>2</sup> , SBAS (WAAS, EGNOS, MSAS, GAGAN), L-band  |
| Real-time and post-processed                            | Support of real-time correction service and post-processing to achieve positioning accuracy   |
| Output data protocols                                   | NMEA-0183 (GGA, VTG, GLL, GSA, GGG, GSV, RMC, GST, LLQ) via Zeno Connect on Windows or position provided by Location Service via Zeno Connect on Android  |
| Update rate   | 20 Hz (0.05 sec) <sup>3</sup>   |
| Post-processing accuracy static mode                    | Horizontal: 3 mm + 0.5 ppm (rms) <sup>4</sup><br>Vertical: 6 mm + 0.5 ppm (rms) <sup>4</sup>  |
| Horizontal real-time accuracy (SBAS or external source) | SBAS, L1 only < 0.9 m <sup>4</sup><br>Spot Lite, PPP (Multi-frequency option needed) < 60 cm <sup>4</sup> after approximately 7 minutes of converging<br>DGNSS, L1 only < 40 cm <sup>4</sup><br>Spot Prime, PPP (Multi-frequency option needed) < 10 cm <sup>4</sup> after approximately 30 minutes of converging<br>RTK, Multi-frequency < 1 cm + 1 ppm <sup>4</sup> |
| Vertical real-time accuracy                             | RTK (Multi-frequency): 2 cm + 1 ppm <sup>4</sup>  |
| Real-time protocols                                     | RTCM 2.x, RTCM 3.0, RTCM 3.1, RTCM 3.2, Leica, CMR, CMR+  |
| Integrated real-time                                    | SBAS <sup>5</sup> (EGNOS, WAAS, MSAS, GAGAN)  |
| Time for initialisation                                 | Typically 6 sec <sup>6</sup>  |

## GG04 Smart Antenna

|                             |  |
|-----------------------------|--|
| User interface              | On/Off key<br>Status indicator (LED): satellite tracking, Bluetooth® communication and battery power |
| Communication port          | Bluetooth® 2.0 class 2 & sealed and protected 8-pin Lemo combined USB / power port                   |
| Field controller connection | By Bluetooth® or with RS232 cable  |

## Power Management

|                       |  |
|-----------------------|--|
| Removable battery     | GEB212 (7.4 V / 2600 mAh Li-Ion rechargeable)          |
| Battery charging time | 2 hours to full charge with GKL341                     |
| Power                 | Nominal 12 V DC<br>Range 10.5 – 28 V DC                |
| Operating time        | 8 h (RTK) <sup>7</sup> , 10 h (GNSS only) <sup>7</sup> |

## Physical Specifications

|                                       |  |
|---------------------------------------|--|
| Weight and dimensions                 | 0.8 kg with all-day battery<br>Height: 0.071 m x Diameter: 0.186 m   |
| Proof against water, sand and dust    | IP68 (IEC60529): dust and water-resistant for all conditions:<br>Temporary submersion into water (2 hours in 1.40 m depth) and protected against blowing rain and dust   |
| Operating / storage temperature range | Operation: -40 to 65 °C (-40°F to +149°F) (ISO 9022-10-08, MIL-STD-810G CHG1 Method 502.6-II & ISO 9022-11-04, MIL-STD-810G CHG1 Method 501.6-II)<br>Storage: -40 to 80 °C (-40°F to +176°F) (ISO 9022-10-08, MIL-STD-810G CHG1 Method 502.6-I & ISO 9022-11-06, MIL-STD-810G CHG1 Method 501.6-I) |
| Humidity                              | 100%, non-condensing<br>(ISO9022-12-04, ISO9022-13-06, ISO9022-16-02, MIL-STD-810G CHG1 Method 507.6-II)   |
| Drop                                  | Withstands topple over from a 2 m survey pole onto hard surface<br>Withstands 1 m drop onto hard surface   |
| Vibration                             | Withstands strong vibration (ISO9022-36-05)  |

## Accessories and Optional Features

|                                    |  |
|------------------------------------|--|
| Accessories                        | <ul style="list-style-type: none"> <li>External battery charger</li> <li>Backpack kit</li> <li>Hard carry case</li> <li>2 meter range pole</li> </ul>  |
| Optional field and office software | <ul style="list-style-type: none"> <li>Leica Zeno Field</li> <li>Leica Zeno Mobile</li> <li>Leica MobileMatrix</li> <li>Leica Zeno Connect</li> <li>Leica Zeno Office and Leica Zeno Office on ArcGIS</li> </ul>   |
| Optional field computers           | <ul style="list-style-type: none"> <li>Leica Zeno 5</li> <li>Leica CS25 rugged Tablet Computer</li> </ul> or with the following 3rd party HW in combination with Leica Zeno Connect:<br>Android phones with Android version > 4.1<br>Android tablets with Android version > 4.1<br>Win7/Win8 or Win10 tablet/pc. |

<sup>1</sup> Believe to comply, but subject to availability of BeiDou ICD and Galileo commercial service definition.

BeiDou B3 and Galileo E6 will be provided through future firmware upgrade.

<sup>2</sup> Support of QZSS is incorporated and will be provided through future firmware upgrade when QZSS will be operational.

<sup>3</sup> 20 Hz supported in GGA NMEA output.

<sup>4</sup> Measurement precision, accuracy and reliability depends upon various factors including number of available satellites, geometry proximity to base station, multipath effects, ionospheric conditions etc.

<sup>5</sup> WAAS available in North America only, EGNOS available in Europe only, MSAS available in Japan only, GAGAN available in India only.

<sup>6</sup> May vary due to atmospheric conditions, multipath, obstructions, signal geometry and number of tracked satellites.

<sup>7</sup> May vary with temperature, battery age, usage etc.



The Bluetooth® word mark and logos are owned by Bluetooth SIG, Inc. and any use of such marks by Leica Geosystems AG is under license. Microsoft, Windows® and the Windows logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and / or other countries. Other trademark and trade names are those of their respective owners.