

DATA SHEET

Supported constellations	GPS, GLONASS, Galileo, BeiDou, QZSS
User interface	Web, e-mail, desktop API
Modes of operation	Static, Kinematic, Quick Start from Known Position
Supported kinematic modes	Terrestrial, Aerial
Input data formats	RINEX
Output data formats in post-processing mode	PDF (report) SINEX (position) KML (trajectory) RINEX CLK (clock bias)
Typical horizontal RMS accuracy	Post-processing: - sub-cm level @ 1 day - 2-3 cm @ 2 hours - < 10 cm @ 1 hour
Web workspace for data post-processing	10 Gbytes
Secondary output data	Receiver clock bias, local tropospheric delay

CHECK ALSO

Product demo and info website at:

<http://magicgnss.gmv.com>

<http://www.gmv.com/en/space/magicPPP/>

E-MAIL SERVICE

Use instructions:

<http://magicgnss.gmv.com/ppp/>

magicppp@gmv.com

CONTACT

magicgnss@gmv.com

Apply for a free test account at:

<http://magicgnss.gmv.com>

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INTERNET BASED

PRECISE POINT POSITIONING SOLUTION



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WHAT IS *magicPPP*?

magicPPP is an Precise Point Positioning (PPP) service that permits GNSS users to determine their position or trajectory with centimeter-level accuracy. *magicPPP* implements innovative algorithms developed by GMV as a result of 25 years experience in GNSS based precise orbit determination, time synchronization and positioning.

Unlike other traditional techniques for high precision positioning such as RTK, the technique implemented in *magicPPP* does not require data from Continuous Operating Reference Stations (CORS) in the proximity of the user. It is an ideal solution for precise trajectography over long distances and/or areas out of CORS coverage. *magicPPP* offers two different services:

- Post-processing service: Registered users can upload, store and manage raw data files in the *magicGNSS* cloud system workspace, and use a number of tools for post-processing and display of results. Commercial receivers that can provide observation data in standard formats like RINEX are supported. Binary formats from most receivers manufacturers are also supported.
- E-mail service (free): Users can access this free service via e-mail by sending their raw RINEX data files to magicppp@gmv.com.

MULTICONSTELLATION, MULTIFREQUENCY

magicPPP is a fully multi-constellation solution. It currently supports GPS, GLONASS, BeiDou, Galileo and QZSS. *magicPPP* algorithms have been thoroughly validated with real multi-GNSS data.

CORE PRODUCTS GENERATION

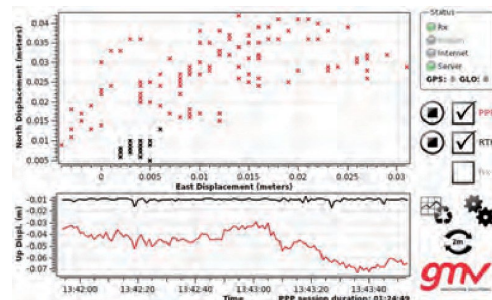
PPP positioning requires a number of so-called core products that include precise orbit predictions, satellite clock corrections and other corrections for the GNSS satellites. Precise orbits accuracy must be in the order of 2-4 centimeters and clock corrections errors must be kept around 0,15 nanoseconds.

In order to provide fast response, full autonomy and multiconstellation capabilities, *magicPPP* employs core products routinely generated using the company's state-of-the-art, proprietary *magicODTS* precise orbit determination and time synchronization suite. The products are automatically generated processing data from GMV's network of 40 worldwide distributed stations.

Orbit predictions are automatically updated every 15 minutes and clock corrections are updated every second.

For the post-processing of GPS data, users can optionally select core products from the International GNSS Service (IGS), which are automatically managed by the system.

magicPPP can also generate core products based on data coming from user-defined regional networks.



PERFORMANCE

PPP positioning accuracy depends on the observation time. For observation times around 1 day, *magicPPP* accuracy can reach the sub-cm level. For observation times around 2 hours, *magicPPP* typical accuracy is around 2-3 cm. For observation times between 20 minutes and 1 hour, *magicPPP* accuracy is usually below 10 cm.

EASY TO USE

GNSS data processing for high precision positioning usually requires to use complex tools and a deep GNSS knowledge.

The spirit of *magicPPP* is to make it simpler and faster to increase productivity and speed-up the learning curve. With a few clicks, the user can upload the GNSS data, select the post-processing mode and obtain the precise position or trajectory. Together with the position or trajectory, *magicPPP* provides a complete report with comprehensive information on input data quality, configuration used, estimation process, and positioning quality.

Managing data has never been so easy, a dynamic map shows all stations and datasets available for the selected date. The user can select the datasets to process by simply clicking on the map.

magicPPP offers two preconfigured post-processing modes, static and kinematic. In kinematic mode, the user can select if the user is terrestrial or aerial user in order to apply the most appropriate configuration.

