GeoMax Zenith16

Product Information
February 2024

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GeoMax Zenith16

**GeoMax Zenith16
GNSS Smart Antenna**

Product Announcement and Product Release:
February 2024

GeoMax Zenith16 – Highlights

NovAtel OEM719 GNSS board, 555 channels

Multi-constellation – GPS, Glonass, Galileo, BeiDou, QZSS, NavIC

Multi-frequency – Resilient to high solar activity

Precise-Point-Positioning (PPP)

Integrated UHF radio modem

IP66 / IP68 protection against dust and water

Withstands 2 m pole topple-over

Internal memory and microSD card storage

GeoMax Zenith16 – Technical Data

VARIANTS

GeoMax Zenith16	
GeoMax Zenith16 UHF	

RECEIVER SPECIFICATIONS

Measurement Engine	NovAtel OEM719, 555 channels, multi-frequency, multi-constellation
GPS tracking	L1 C/A, L2P, L2C, L5
GLONASS tracking	L1 C/A, L2P, L2C, L3
BeiDou tracking	B1, B2, B3
Galileo tracking	E1, E5a, E5b, AltBOC, E6
SBAS	EGNOS, WAAS, MSAS, GAGAN
QZSS tracking	L1, L2, L5, L6*
NavIC	L5*
Precise Point Positioning (PPP)	TerraStar C Pro, L-Band (opt)
Positioning rate	5 Hz, 20 Hz (opt)
Time for Initialisation	Typically 4 s

RECEIVER ACCURACY (rms) **

RTK	Hz: 8 mm + 1 ppm V: 15 mm + 1 ppm
Network RTK	Hz: 8 mm + 0.5 ppm V: 15 mm + 0.5 ppm
Static	Hz: 3 mm + 0.5 ppm V: 5 mm + 0.5 ppm
Static long	Hz: 3 mm + 0.1 ppm V: 3.5 mm + 0.4 ppm
TerraStar C Pro PPP	Hz: < 2.5 cm V: < 5 cm

INTERFACES

Keyboard	On/off button, Function button
LED status indicators	Position, RTK, Power, Storage, Bluetooth®
LED mode indicators	Rover, Base, Static
Data recording	MicroSD card

* QZSS L6 and NavIC are foreseen to be provided through future firmware upgrade.
**Measurement precision, accuracy, reliability and time for initialisation are dvependent upon various factors including number of satellites, observation time, atmospheric conditions, multipath etc. Figures quoted assume normal to favourable conditions.

GeoMax Zenith16 – Technical Data

COMMUNICATION

RTK data protocols	CMR, CMR+, RTCM 2.2, 2.3, 3.0, 3.1, 3.2 MSM
NMEA Output	NMEA 0183
UHF radio module	Satel TR4+, transceiver Transmission power 0.5 and 1.0 W; Frequency range 403 to 473 MHz (opt)
Bluetooth®	Device class II QR-iConnect functionality
TNC connector	High sensitivity, UHF antenna
Communication port	USB, serial & power

POWER SUPPLY

Internal battery	Li-Ion 7.4 V / 2.6 Ah
Operating time	7 h in static / 6 h in rover mode
External power	10.5 V to 28 V DC with ZDC225 cable

PHYSICAL SPECIFICATIONS

Dimensions	Height 95 mm, ø 198 mm
Weight	1.14 to 1.18 kg without batteries ***
Operating temp.	−40°C to 65°C
Environmental protection	IP68 (IEC 60529) Withstands powerful water jets and temporary immersion under water MIL-STD-810H 512.6 Procedure I MIL-STD-810H 510.7 Procedure I Fully dust tight MIL-STD-810G 1 510.6
Humidity	100% condensing
Vibration	Mechanical stress resistant according to ISO 9022-36-05
Shock	Withstands 2 m (6.6 ft) pole topple over onto hard surface

*** Depending on device configuration; w/o battery

GeoMax Zenith16 – Net Rover Set

6013619	**Zenith16 Net Rover Set** GeoMax Zenith16 multi-constellation GNSS receiver with Bluetooth, 555 channels, GPS, GLONASS, QZSS, multi-frequency, 5 Hz positioning rate. Including battery, charger, hard container, microSD card, USB cable, multilingual Quick Guide and telescopic pole.
996346	Zenith16 GNSS Smart Antenna
819282	ZBA201 Li-Ion Battery, 2.6 Ah 7.4 V, rechargeable
766872	ZCH201 Charger for ZBA201 & ZBA400 Li-Ion batteries
733254	GEV192 AC/DC-Adapter for ZCH201 Charger
789349	ZPC200 Telescopic Carbon Fibre and aluminium pole with 5/8"screw for GNSS. Extends to 2.5 m.

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GeoMax Zenith16 – UHF Rover Set

6013620	**Zenith16 Net Rover Set** GeoMax Zenith16 multi-constellation GNSS receiver with SATEL radio, Bluetooth, 555 channels, GPS, GLONASS, QZSS, multi-frequency, 5 Hz positioning rate. Including battery, charger, hard container, microSD card, USB cable, multilingual Quick Guide and telescopic pole.
996347	Zenith16 GNSS UHF Smart Antenna
819282	ZBA201 Li-Ion Battery, 2.6 Ah 7.4 V, rechargeable
766872	ZCH201 Charger for ZBA201 & ZBA400 Li-Ion batteries
733254	GEV192 AC/DC-Adapter for ZCH201 Charger
789349	ZPC200 Telescopic Carbon Fibre and aluminium pole with 5/8"screw for GNSS. Extends to 2.5 m.

GeoMax Zenith16 – GNSS Options

The following GNSS options are available for the Zenith16 smart antenna:

Art. No.	Name
872995	BeiDou option, enables tracking of BeiDou satellites with a Zenith16 GNSS receiver
872996	Galileo option, enables tracking of Galileo satellites with a Zenith16 GNSS receiver
891053	20 Hz option, enables 20 Hz (0.05 s) positioning with a Zenith16 GNSS receiver

GeoMax Zenith16 – X-PAD Field Software

Whether in the field or in the office, GeoMax X-PAD software streamlines the workflow for maximum efficiency.

GeoMax X-PAD field software is available in two tailored versions: one for surveyors and one for construction professionals.

Working closely with key-users around the world, X-PAD is continuously updated to maintain a perfect combination of clear structure, straightforward workflows and high functionality.

The GeoMax Zenius08 tablet is the perfect device to operate your X-PAD field software.

GeoMax Zenith16 – Key Messages

Top-performing technology, smart investment
The Zenith16 GNSS smart antenna provides fast and accurate measurements, enabling you to efficiently complete high-quality projects.

Renowned Partners
Experience increased productivity and reduced failure rates thanks to the power of Hexagon's cutting-edge technology and the partnerships with high-quality brands like SATEL and NovAtel.

Best value for money
Top performing technology and a remarkable price-performance ratio meet in the Zenith16 GNSS receiver, making it a strong investment.

Open & flexible configuration
Configure the Zenith16 with X-PAD Ultimate software or the Zenith Manager, a stand-alone application available for Windows® and Android™ operating systems, freeing you from using a field controller.

GeoMax GNSS and TPS Solutions – Works when you do