

# GeoMax GNSS

## Zenith10 & Zenith20 Series



# GeoMax

## About Us

At GeoMax we provide a comprehensive portfolio of integrated solutions by developing, manufacturing and distributing quality construction and surveying instruments and software. We address professional as well as occasional users with our easy-to-use, yet highly productive total stations, GPS/GNSS instruments, software, lasers, optical and digital levels and accessories.

Being part of the Hexagon Group, a global technology

group with strong market positions within measurement technologies, grants GeoMax access to state of the art development and production facilities in Europe, America and Asia. Our technology is supported by a broad sales and service network covering all continents and over 100 branches. Through this continually growing distribution and service network, our products are available worldwide delivering outstanding price-performance ratio.

At GeoMax, we concentrate on providing you with the quality and functionality you need in your daily work. Removing the frills enables us to deliver products that "work when you do" – independent of weather, location and task. You get a price-to-performance ratio which you need to succeed in your tough business environment.



**GE MAX**  
Part of Hexagon Group







Zenith10 & Zenith20

# Works when you do!

At GeoMax we understand that you work in demanding environments and require excellent price-to-performance without compromising quality, that's why we build products that "work when you do"!

## The fully integrated GNSS

Zenith10 & Zenith20 are complete and fully integrated satellite positioning systems. They comprise of only two main components, a GNSS antenna and a handheld computer that can be setup on a pole or tripod.

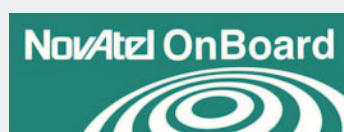
The integrated wireless technology, provides a completely cable free and light-weight solution that is ready for an entire day's work.

FieldGenius software makes positioning easy and includes many features to satisfy even the most demanding user. Finish tasks faster than ever before with the fully integrated Zenith Series.

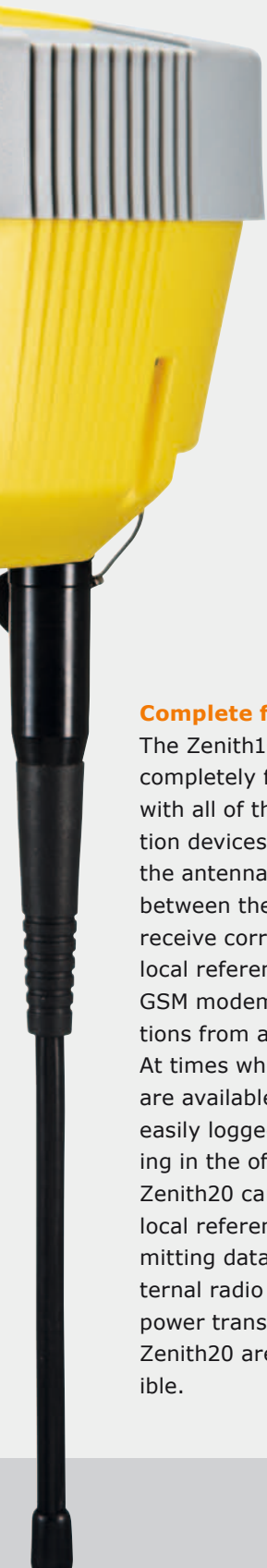
## Quality GNSS

Equipped with state-of-the-art NovAtel satellite receiver technology, the Zenith10 & Zenith20 provide maximum performance. The AdVance® RTK technology developed by NovAtel ensures maximum positioning availability under challenging conditions.

GeoMax offers two types of GNSS receivers, the Zenith10 with 72 channels and the Zenith20 with 120 channels. Both receivers can track satellite signals of the GPS and GLONASS type. The Zenith20 additionally supports Galileo. By having access to a maximum number of satellites, positions can be determined at any time, ensuring that Geomax GNSS works when you do!







### **Complete flexibility**

The Zenith10 & Zenith20 are completely flexible systems, with all of the communication devices integrated into the antenna. It's easy to swap between the UHF radio to receive correction data from a local reference station and the GSM modem to receive corrections from a regional network. At times when no corrections are available, raw data can be easily logged for post-processing in the office. Zenith10 & Zenith20 can also operate as a local reference station transmitting data either with the internal radio or an external high power transmitter. Zenith10 & Zenith20 are completely flexible.



**Works when you do**

# Providing a complete solution

## A rugged handheld, packed with features

The PS236 is a compact handheld that is rugged enough for any task. Running Windows® Mobile, the PS236 is packed with features.

Rapid data entry is possible thanks to an extensive keyboard and touchscreen display. With a powerful processor and large internal memory, there are no limits to the possibilities offered by the PS236 handheld.

Being extremely rugged and with a sunlight readable display, you can continue to use the Zenith10 & Zenith20 in all outdoor environments. And with a long battery life of 10 hours, keep working until your job is complete.

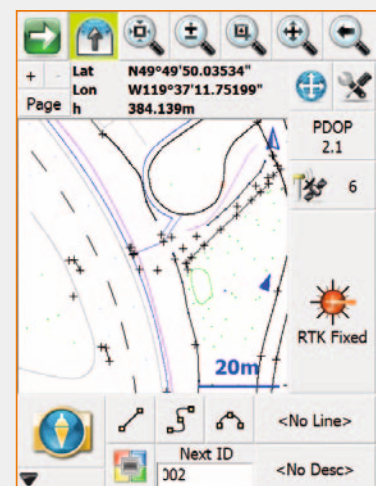
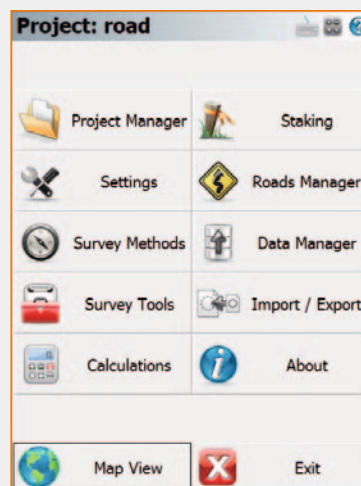


## Field Software

Zenith10 & Zenith20 are open systems that support any Windows Mobile based field software. A standard Zenith Series configuration is supplied with GeoMax FieldGenius, a fully featured intuitive field software package. With large main menu icons, tasks can be quickly found and executed directly with the touch screen.

Your survey work is always shown graphically to ensure you see all of your design and measured data. Elements can simply be selected by using the touch screen display.

Supporting a full range of export formats, your field work can be transferred directly to your office software.

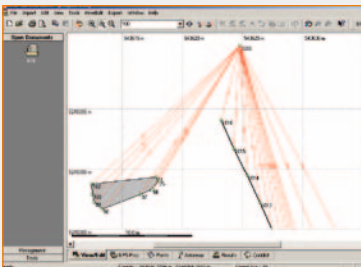


# Zenith10 & 20

## Office Software

GeoMax offers GeoOffice (GGO) as a versatile PC software to handle all your fieldwork. GGO is based on an intuitive, graphical interface making it quick to learn and easy to use.

All the data is displayed graphically providing a clear overview of your work. By simply selecting any element, the related information can be accessed or edited.

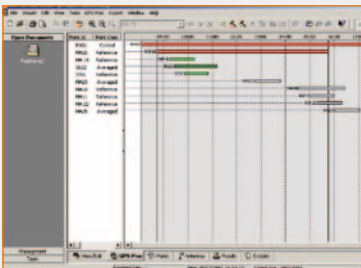


## Flexible Import and Export

Data can be transferred directly between GeoMax instruments and GGO. The flexible ASCII export allows the creation of data files in any format.

## Coordinate Transformations

GGO includes a range of tools for defining coordinate systems and to transform coordinates into a local system. Using geoidal models, GNSS measured ellipsoidal heights can be converted to orthometric heights.



## GNSS Post Processing

Raw data can be imported into GGO from all types of GNSS sensors. The Post Processing module allows extended user control over the parameters used in the baseline computations. Result reports provide detailed information about the processing procedure and accuracies obtained.

## One box, one price

Zenith10 & Zenith20 include all components and accessories required for any type of measurement task. These are supplied in one rugged container to ensure nothing is left behind.

With no additional hidden costs, you're ready to go from day one with Zenith10 & Zenith20. This is the GNSS series you'll ever need for a quality and price unique in the market.





# Zenith10 & Zenith20 Series

## Technical Data

### Zenith Series GNSS receiver

#### Receiver specifications

NovAtel AdVance® technology	
Zenith10	72 channels (GPS/GLONASS)
Zenith20	120 channels (GPS/GLONASS/Galileo)
Satellite signals tracked:	
GPS	L1, L2, L2C
GLONASS	L1, L2
Galileo*	
5 Hz raw measurement & position outputs, 20Hz optional	
RTK signal initialization typically less than 10 sec**	
Initial capture time	< 15 sec**
Internal memory	256 MB (more than 60 days of raw static data storage with recording sample every 15 sec)

Raw Data Logging to internal memory or MicroSD card

#### Receiver accuracy

Static horizontal accuracy	5 mm ± 0.5 ppm (RMS)**
Static vertical accuracy	10 mm ± 0.5 ppm (RMS)**
Kinematic horiz. accuracy	10 mm ± 1 ppm (RMS)**
Kinematic vert. accuracy	20 mm ± 1 ppm (RMS)**
DGPS/RTCM differential positioning:	0.25 m (RMS)**

#### Serial protocols

RTK formats	CMR, CMR+, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1
Navigation outputs	ASCII (NMEA-0183)

#### Connection devices

Connectors I/O:	
5-pin LEMO connector	for external power supply and serial connection
4-pin LEMO connector	for connecting with PC USB port
Two TNC connectors	for UHF and GSM antennas
Bluetooth® device	class II
Internal radio with 1 W transmission power. Programmable frequency range of 403 – 473 MHz, optional.	
GSM/GPRS data modem	at 800 MHz, 900 MHz, 1800 MHz & 1900 MHz
Sim card slot	in battery compartment
MicroSD card slot	in battery compartment

#### Power Supply

Interchangeable 2500mAh / 7.4V Li-Ion battery providing 4.5 hours RTK operation	
9V to a 18V DC external power input with over-voltage protection	

#### Physical specifications

Size	height 94 mm x diameter 188 mm
Weight	1.2 kg with internal battery and UHF radio
Operational temp.	-30°C to 60°C (-22°F to 140°F)
Storage temp.	-40°C to 80°C (-40°F to 176°F)
Protection class	IP67
Humidity	100%
Shock resistance	designed to survive a topple over on 2 m pole

\* The optional Galileo tracking will be made available once there are sufficient of these satellites.

\*\* The position accuracies depend on various factors including number of satellites, geometry, ionospheric conditions, multipath, etc.

### PS236 Handheld

#### System

Operating System:	Microsoft Windows Mobile® 6.1 Classic
Processor:	Marvell PXA310 806MHz
Memory:	256MB NAND flash and 4GB iNAND
Expansion Slot:	SDHC card slot (up to 16GB)

#### Interface

Display:	3.5" TFT LCD VGA (480 x 640) touchscreen and backlight
Keypad:	Numeric phone keypad with 21 keys
Data ports:	Serial port (9-pin) & USB port (mini AB)
Wireless connection:	Bluetooth® device class II

#### Physical specifications

Dimensions	89 x 30 x 178 mm
Weight	530 g including battery
Rover weight	3.1 kg for complete pole setup
Operational temp.	-30°C to 60°C (-22°F to 140°F)
Storage temp.	-40°C to 70°C (-40°F to 160°F)
Protection class	IP67
Humidity	95%, non-condensing

#### Power Supply

Removable 5600mAh / 3.7V Li-Ion battery	
Operating time up to 10 hours	
Internal charging with supplied AC adapter	

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