GEOMAX

GNSS Receiver

Zenith40

Zenith40 is the true flagship of the GeoMax GNSS receivers. Equipped with NovAtel`s latest, cutting-edge measurement engine and supporting fast converging Precise Point Positioning (PPP) this antenna provides a highest level of technology and meets the toughest MIL standards. Zenith40 asures a workflow tailored to your needs thanks to the user-centered X-PAD Ultimate field software or the flexibility to run your own software on any field controller. The combination of all this in a GNSS smart-antenna creates a solution that is second to none.

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Right on point
Experience the full GeoMax technology

Quality

Same as NovAtel and TerraStar, GeoMax is a full member of the renowned Swedish Hexagon group. Using synergies, sharing components combined with the power to partner with premium suppliers such as SATEL and bundled with Hexagons extensive manufacturing know-how enables GeoMax to offer products at highest performance and quality level.

Zenith40 with its remarkable operating temperature from -40°C up to +65°C is fully dust-tight, withstands powerful water jets and even temporarily immersion under water and complies to the international IP68- as well as to the tough US MIL standards.

Superior Positioning

Take advantage of NovAtel's latest fully-featured OEM 719 measurement engine. It enables you to receive multi-frequency signals form all existing satellite systems worldwide. Struggles with canopy - like working under trees, or inaccurate results because of multipath signals are significantly improved due to the enhanced GeoMax Q-Lock Pro RTK which also reduces the time-to-fix.

Also on board of the Zenith40, Hexagon's TerraStar Precise Point Positioning (PPP) service that provides C-Pro correction data at centimeter level quality all around the globe. This service significantly enhances your productivity, as it eliminates the need of a network connection and reference from a data base station. Furthermore, no need to worry about reference frames anymore. The PPP position is provided within the coordinate system.

The GeoMax Q-Lock Pro algorithm automatically detects available correction services and selects the one providing the highest accuracy.

X-PAD

GeoMax X-PAD field software is available in two tailored versions: One for surveyors and one for construction professionals supporting Windows and Android operating systems.

Due to the close cooperation with key-users all around the world, X-PAD Ultimate is continuously kept up-to-date and convinces due to its perfect balance between clear structure, straight forward workflows and high functionality.

The GeoMax software offering is completed by X-PAD Fusion, a fully featured office software that even enables automatic point cloud registrations.

X-PAD Fusion has the versatility and flexibility to fuse all data types from both GeoMax sensors and other 3rd party sources such as drones. The data is then compiled in one database which eliminates the risk of data loss as well as the need for time consuming data conversions.

Open & Flexible Configuration

The Zenith40 provides greatest flexibility. No matter if you want to run GeoMax X-PAD Ultimate on a dedicted GeoMax field controller or your preferred software on your own devices, this GNSS antenna allows you to work in the way that best fits your needs. Zenith40 can either be fully configured within the field software or with the Zenith Manager, a stand-alone application available for Windows and Android operating systems. This enables you to configure your antenna without using the field controller.

Being freely available on the Google Play store the latest version of Zenith Manager can be downloaded at any time and used on any Android based device, such as mobile phones or tablets.

The innovative and unique QR-iConnect functionality speeds up your connection process. Forget the times of tedious sensor search and selection by toggling through extensive device lists. Simply scan and go!

Receiver specifications

Q-Lock Pro™ functionality	Lowest noise and advanced mutipath mitigation for highest reliability
Reliabiliy	99.99%
Measurement Engine	NovAtel OEM7, 555 channels, multi-frequency / -constellation
GPS tracking	L1, L2, L2C, L5
GLONASS tracking	L1, L2, L2C, L3*
BeiDou tracking	B1, B2, B3* (opt)
Galileo tracking	E1, E5a, E5b, AltBOC, E6* (opt)
QZSS tracking	L1, L2C, L5, L6* (opt)
NavIC	L5*
Positioning rate	5 Hz, 20 Hz (opt)
SBAS	EGNOS, WAAS, MSAS, GAGAN
Precise Point Positioning (PPP)	TerraStar C Pro ; GPS/ GLONASS/ BeiDou/ Galileo/ QZSS (opt); Reconvergence < 1 min

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 and function key
LED status indicators	Position, battery, Bluetooth®, RTK receive, RTK transmit, data storage
LED mode indicators	Rover, base, static
Data recording	Removable microSD card
GSM/TCP/IP	Removable SIM card

Communication

GSM/GPRS module	Quad-Band GSM & Penta-Band UMTS 800/ 850/ 900/ 1900/ 2100 MHz
UHF radio module	SATEL, 500mW, 1000 mW transceiver, 403 – 473 MHz; (opt)
Bluetooth®	Device class II QR-iConnect functionality
TNC connector	High sensitivity, UHF antenna
Communication port	USB, serial & power

Physical specifications

Dimensions	Height 95 mm, ø 198 mm
Weight	1.14 - 1.18 kg ***
Operating temp.	– 40°C to 65°C
Environmental protection	IP68/ IP66/ MIL
Water protection	IPx6 & IPx8 & MIL IPx6: Withstands powerful water jets IPx8: Withstands temporarily immersion under water IPx6: MIL-STD-810G 1 506.6 procedure II IPx8: MIL-STD-810G 1 512.6 procedure I
Sand/Dust protection	IP6x & MIL IP6x; Fully dust tight IP6x; MIL-STD-810G 1 510.6 procedure I
Humidity	100%, condensing
Vibration	Mechanical stress resistant according to ISO 9022-36-05
Shock	Withstands 2 m drop onto hard surface

Power supply

Internal battery	Removable, Li-Ion 2.6 Ah / 7.4 V
Operating time	9 h in static / 6 h in rover mode
External power	10.5 V to 28 V, LEMO® plug

* Glonass L3, BeiDou B3, Galileo E6, QZSS L6 and NavIC L5 are foreseen to be provided through future firmware upgrade.
** Measurement precision, accuracy, reliability and time for initialization are dependent upon various factors including number of satellites, observation time, atmospheric conditions, multipath etc. Figures quoted assume normal to favorable conditions. A full BeiDou and Galileo constellation will further increase measurement performance and accuracy.
*** Depending on device configuration; w/o battery

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