NAVSTAR

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NavStar GMS700

Purpose-built for exceptional monitoring performance.

Monitoring Solution

NavStar's GMS700 is a compact, high-precision GPS/GNSS sensor that provides accurate three-dimensional displacement and tilt measurements for deformation monitoring.

With no moving parts and the ability to provide 24/7 automated monitoring data in extreme climates, the GMS700 sensors are an ideal choice for monitoring slopes and structures such as: open-pit mines, dams, landslides, and other natural hazards.

Battery operated

The GMS700 is designed for low-maintenance, autonomous operation powered by a single lithium battery with a lifespan of up to three years.*

** Battery life span is relative to the environmental conditions and the sample interval rate. For extended exposure to sub-zero temperatures, please consult with a technical sales representative to discuss project requirements.*

Small Size, Big Connection

With its 16 cm cube enclosure, the GMS700's small size makes it suitable for rapid deployment on a variety of project types while maintaining connection. Communication is possible via Mesh or WiFi.

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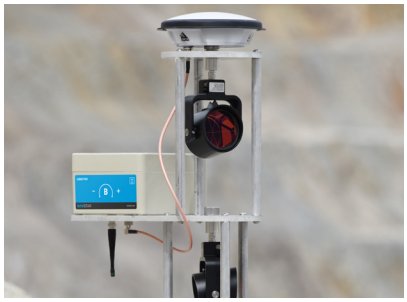
GMS700 Technical Specifications

Physical and Electrical	
Enclosure Dimensions	160mm x 160mm x 100mm
Enclosure Material	Fiberglass Reinforced Polyester
Weight*	1.35 kg
Connectors	TNC(F) for GNSS Antenna BNC(F) for Radio Antenna
Mounting	2" Pole Clamps included. Flexible hole pattern also work for alternate mounting.
Temperature	Operating: -40˚C to +60˚C Storage: -40˚C to +60˚C
Power Consumption	42mWH per measurement.~8000 measurements with 6 x Lithium D Batteries at room temperature' with 'In RTK mode'
Sensors	
GNSS Channels	555
GNSS Signals Received	GPS L1 C/A, L1C, L2C, L2P, L5 GLONASS† L1 C/A, L2 C/A, L2P, L3, L5 Galileo† E1, E5 AltBOC, E5a, E5b, E6 BeiDou† B1I, B1C, B2I, B2a, B3I QZSS† L1 C/A, L1C, L2C, L5, L6
Biaxial Tilt Accuracy	<0.01˚
Environmental Sensors	Temperature, Input Voltage, Input Current, Charge Voltage, Charge Current, Runtime Metrics
Typical GNSS Measurement Performance	
	Real-time kinematic mode
Horizontal Repeatability (24 hr average)	2 mm
Vertical Repeatability (24 hr average)	3 mm

Included GNSS Antenna ‡	
Signals Received	GPS L1/L2 GLONASS L1/ L2 Galieo E1 Beidou B1
Dimensions	176 mm D x 55 mm H
Connector	TNC (F)
Mounting	5/8" Coarse Thread Mount
Phase Center Ability	< 2.0mm
Noise Figure	< 2.0dB (typical)
Power Supply Options	
Lithium Battery	1 x 68AH 14.4v Battery Pack 1-3 year lifespan~ Non-rechargeable NOTE: Dependent on temperature and sample interval rate. For sub-zero temperatures and hourly intervals, it is recommended to use the GMS800 Solar model
Telemetry	
Mesh Radio	868MHz, 900MHz, 2.4GHz
WiFi	802.11 B/G/N
Spares and Accessories	
Part #	**Item**
BATT-GMS700	Lithium Battery Replacement for GMS700 4.4V 76.0AH
ACAL-MAIN	Prism Stand-Prism Holder for 1 Prism
ACAL-MAIN-2-PRISMS	Prism Stand-Prism Holder for 2 x Prisms

** Without battery*
† Optional, requires extra license
‡ Additional antenna options available

The repeatability and precision of GNSS measurements at a particular location and time are affected by the number and geometric distribution of satellites in the visible sky, the effect of multipathing, the distance of the unit from the base station, and other factors. The measurement performance stated above assumes a typical installation with favourable topography.



GMS700s can be used with NavStar's ACAL Advanced Calibration system for high precision prism monitoring.

Fully supported by the GeoExplorer platform for integrated monitoring projects.

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