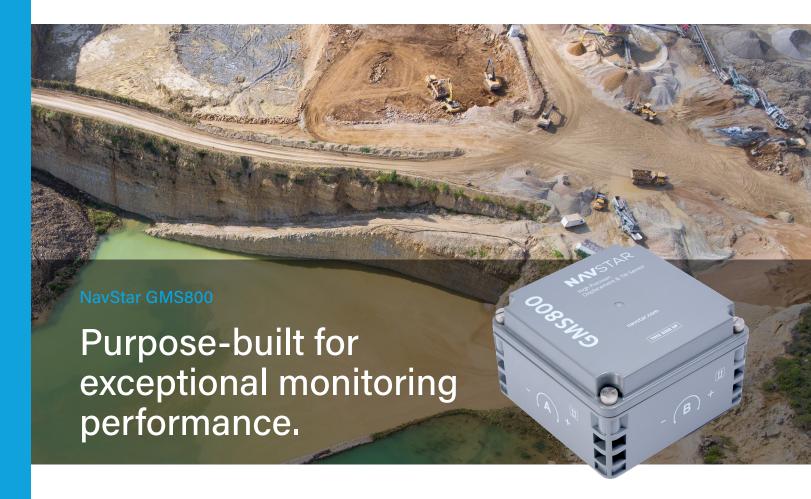
# **NAV**STAR





### **Monitoring Solution**

NavStar's GMS800 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 GMS800 sensors are an ideal choice for monitoring slopes and structures such as; open-pit mines, dams, landslides, and other natural hazards.



## **Energy Efficient**

The GMS800 supports a new rechargeable solar-powered system for a long term maintenance free solution. In RTK mode, the system requires only 30 minutes of sunlight per day for 24/7 operation with hourly readings using a small 10W solar panel.



#### **Small Size, Big Connection**

With its 16cm cube enclosure, the GMS800's small size makes it suitable for rapid deployment on a variety of project types while maintaining connection. Communication is possible via Integrated Mesh, WiFi or LTE radios.



# **GMS800 Technical Specifications**

Physical and Electri	cal			
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 +85°C		
		Storage: -55°C to +85°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 <sup>†</sup> B1I, B1C, B2I, B2a, B3I		
		QZSS <sup>†</sup> 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				
	Post processing mode		Real-time kinematic mode	
Horizontal Repeatability (24 hr	3 mm		8 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			
Solar / Lead Acid	2.6AH 12v Integrated Lead Acid power supply system including internal solar controller. 10W solar panel typical		
Telemetry			
Mesh Radio	868MHz, 900MHz, 2.4GHz		
WiFi	802.11 B/G/N		
LTE	Bands 1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 28 and 39		
Spares and Accessories			
Part #	Item		
PBL103-ASSY	Board assembly for GMS800- Including battery board, bracket and 12V lead acid battery		
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.

15 mm



5 mm

average)

Vertical Repeatability

(24 hr average)

GMS800s 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.



The GMS800's small size makes it suitable for rapid deployment on a variety of project types.