NAVSTAR

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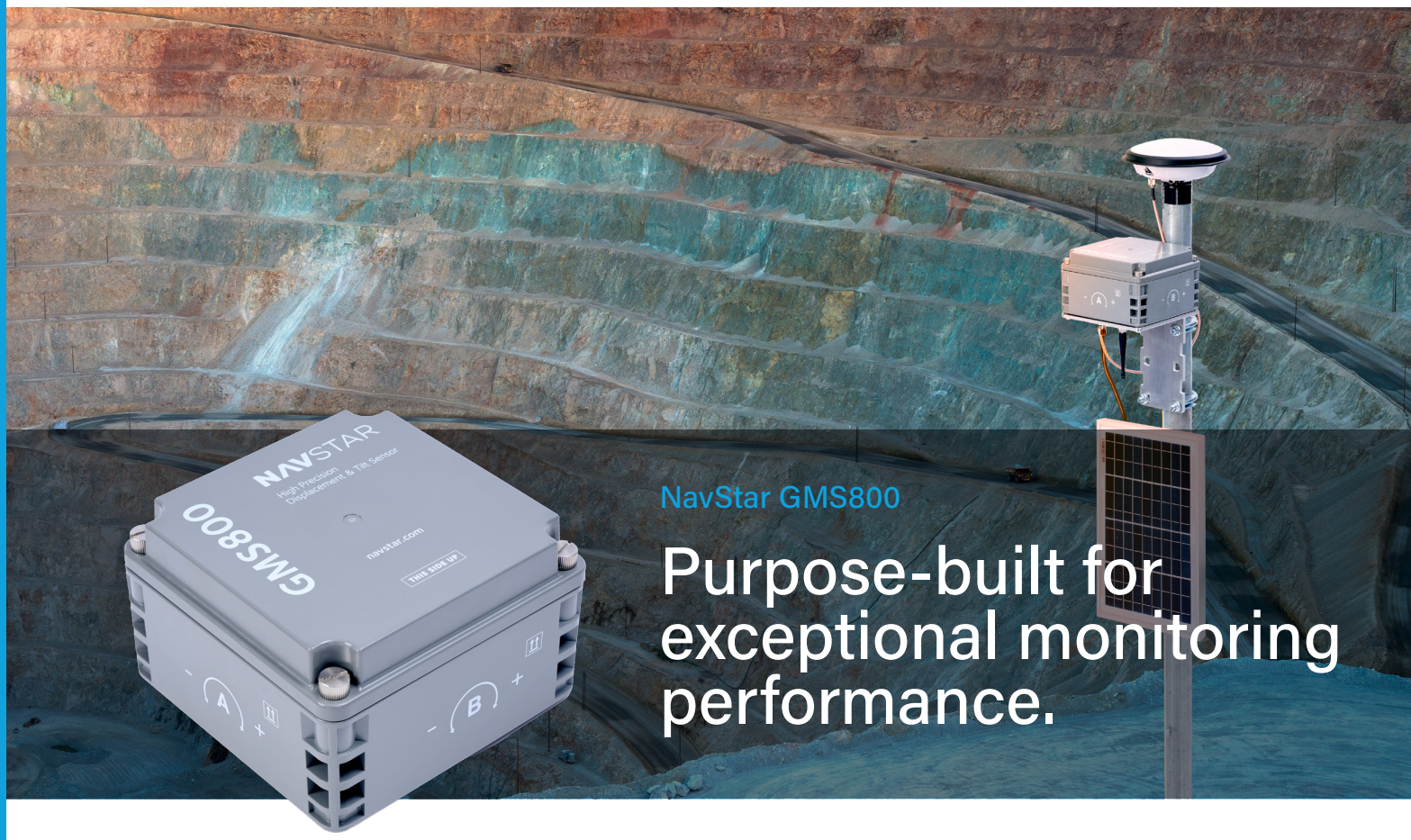


NavStar GMS800

# Purpose-built for exceptional monitoring performance.

## 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 varying 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 (typical) 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.

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# GMS800 Technical Specifications

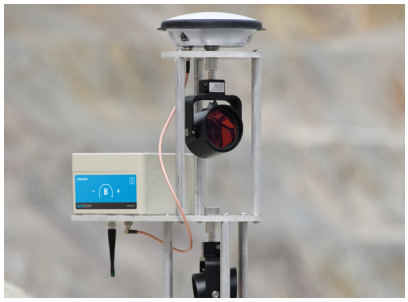
| Physical and Electrical | |
|---|---|
| Enclosure Dimensions | 160mm x 160mm x 100mm |
| Enclosure Material | Fiberglass Reinforced Polyester |
| Weight* | 1.35 kg |
| Connectors | TNC(F) for GNSS Antenna<br>BNC(F) for Radio Antenna |
| Mounting | 2" Pole Clamps included. Flexible hole pattern also work for alternate mounting. |
| Temperature* | Standard Operating Range: -20°C to +60°C<br>Extended Operating Range: -40°C to +60°C<br>Storage: -20˚C to +60˚C |
| Energy Consumption | 65 mWh per measurement (Typical - hourly)<br>82 mWh per measurement (Max)<br>Default measurement interval is hourly.<br>5 minute interval available (additional power supply required - please contact a member of the sales team to discuss requirements). |
| **Sensors** | |
| GNSS Channels | 555 |
| GNSS Signals Received | GPS L1 C/A, L1C, L2C, L2P, L5<br>GLONASS† L1 C/A, L2 C/A, L2P, L3, L5<br>Galileo† E1, E5 AltBOC, E5a, E5b, E6<br>BeiDou† B1I, B1C, B2I, B2a, B3I<br>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 |

**Internal battery pack only rated for the standard operating temperature. If operating in the extended operating range for more than 12hours, please contact a sales representative about external battery pack options.*

| Included GNSS Antenna ‡ | |
|---|---|
| Signals Received | GPS L1/L2<br>GLONASS L1/ L2<br>Galieo E1<br>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 | 2.4AH 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 | 2.4 Ah Lead Acid Battery and Solar Charge Controller assembly for GMS800 |
| 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.*



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.

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