



HRG Crystal™

MicroGEONYX™

Land inertial navigation unit

GNSS threats proof
Extremely compact
Cost-effective solution
Outstanding reliability
True North Finding capability
On-the-move alignment without GNSS capability



MicroGEONYX™ is designed to meet the most demanding navigation and heading performances for every land vehicles, drones, turrets, mobile radars even in GNSS denied environment.

This inertial navigation system extends Safran's navigation portfolio with a more compact solution for land platforms.

Easy system integration

As a full inertial navigation system, MicroGEONYX™ is insensitive to magnetic disturbances, providing higher accuracy and easier vehicle integration. It offers the most cost-effective navigation solutions for any vehicle platform.

Operational efficiency

Designed to support rapid deployment and reliable navigation in the most constrained operational environments, including jammed or GNSS-denied conditions, MicroGEONYX™ provides:

- A pointing accuracies up to 1 mils
- Minimal Static Alignment in less than 2 minutes
- On-the-move alignment without GNSS
- Autonomous navigation without GNSS
- High positioning accuracy in the harshest conditions
- Jamming, Spoofing and Meaconing algorithms detection (NavWar Option).

Technical specifications

Optimized architecture

- Size : 120 x 120 x 130 mm / 1.9 L
- Weight : 2 kg
- Consumption : < 12W
- Gyro technology : HRG Crystal™

Maintenance

- MTBF (Mean Time Between Failure) : > 100,000 hours

Flexible Interfaces

- Embedded GNSS receiver (external GNSS possible)
- RS422
- Ethernet
- CANBUS

Navigation standards

- Environment : MIL-STD-810
- Electrical : MIL-STD-1275
- EMC : MIL-STD-461
- Operating temperature : -40°C to +71°C

Full production mode end 2027 – Prototypes available now.

In-house technology

	MicroGEONYX™ SP	MicroGEONYX™ HP
Heading (RMS*) at 70° lat. (↔ seclat)	2 mils (↔ 0.70 mils)	1 mils (↔ 0.35 mils)
Pitch & Roll (RMS)	0.75 mils	0.5 mils
Horizontal Position (CEP*)	0.15% DT	0.1% DT
Vertical Position (EP*)	0.15% DT	0.1% DT
Alignment without GNSS (datas available)	< 2 min	
Alignment without GNSS (full performance)	Static < 5 min On-the-move < 10 min (Stored Heading Alignment < 30 sec)	
NavWar Option	Available end 2027	
Shocks	Half-sine 50 g/11 ms	

*INS: Inertial Navigation System / HRG: Hemispherical Resonator Gyro / GNSS: Global Navigation Satellite System / RMS: Root Mean Square / CEP: Circular Error Probable / EP: Error Probable



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