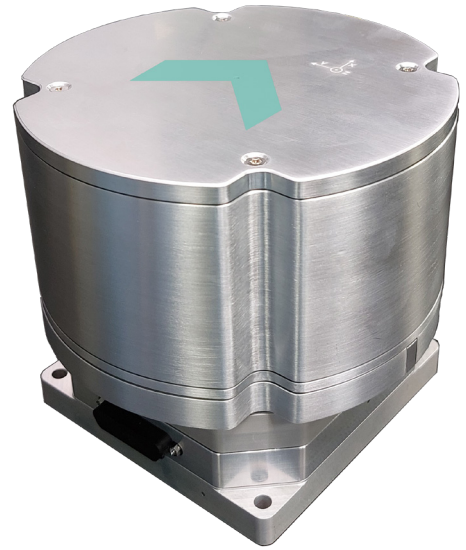


Astrix NS-IMU

High accuracy 6-axis space
Fiber-Optic Gyroscope IMU

Astrix NS – IMU is a high-performance Inertial Measurement Unit offering exceptional reliability in a compact design at a competitive price. It is built on Exail's expertise in Fiber Optic Gyroscope (FOG) and accelerometer technologies. Designed to meet the rigorous technical and environmental demands of space missions, Astrix NS – IMU is ideal for Rovers, Landers and Orbital Transit Vehicles as well as In-Space Servicing, Assembly & Manufacturing and Rendezvous Proximity Operations & Docking capabilities. As part of the EURISA H2020 project, Exail leads the development of this next-generation IMU in collaboration with Airbus Defence and Space, ETH Zurich, and the German Aerospace Center (DLR), disrupting the space-grade IMU market with a compact, high-performance, and cost-effective solution.

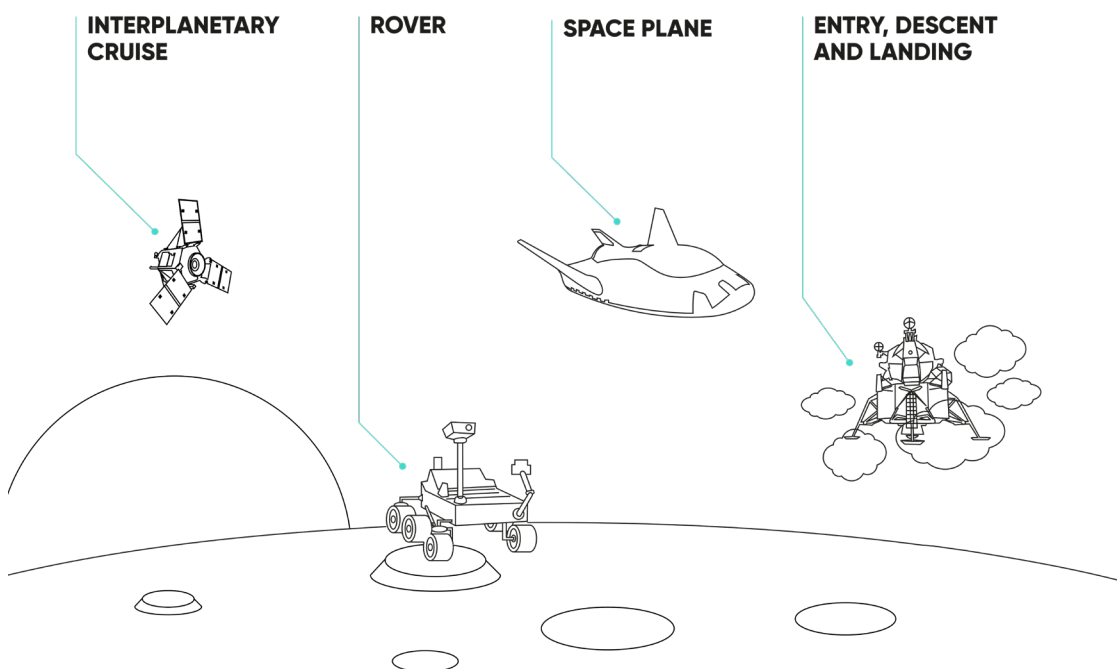


FEATURES & BENEFITS

- True IMU with Exail manufactured FOG and vibrating quartz accelerometers
- Cost-effective IMU supported by volume production
- Small volume and footprint: < 130 x 130 x 117 mm (L x W x H)
- Low Mass at < 2 kg
- High performance low ARW ($< 0.0025^\circ/\sqrt{h}$), for stringent pointing applications
- Footprint compatible with Astrix NS IRU: same mounting plate

TARGETED SPACE VEHICLES & MISSIONS

- Orbital Transit Vehicles
- Rovers
- Landers
- In-Space Servicing, Assembly, & Manufacturing
- Interplanetary Missions
- Rendezvous, Proximity Operations & Docking



TECHNICAL SPECIFICATIONS

Performance - FOG

ARW	< 0.0025°/√h
Bias stability	0.005°/h (1σ)
Bias residual	0.2°/h (max)
Scale factor residual	200 ppm (max)
Measurement range	60°/s qualified. Higher speed on demand

Performance - Accelerometer

VRW	10 µg/√Hz
Velocity white noise	100 µg/√Hz @100Hz
Bias stability	10 µg (1σ)
Bias thermal residual	100 µg (1σ)
Scale factor thermal residual	15 ppm (1σ)
Measurement range	100 g

Environment / Operating conditions

Temperature	Operating: -35°C to 55°C
Vibration	Operating: 13.7 gRMS
Shock	Operating: 1000 g - 1 ms
Radiation	> 25 krad at component level
Lifetime	7 years LEO or 15 years GEO + EOR

Mechanical interfaces

Mass	< 1.95 kg
Volume (L x W x H)	< 130 x 130 x 117 mm

Electrical interfaces

Power bus	20 - 52V
Communication	RS422 and RS485
Power	< 12 W

These specifications are the baseline for the Astrix NS - IMU development.
Minor adjustments are possible through development project.