



News



Powering ultimate gyrostabilization for demanding optronics

In today's rapidly evolving defense landscape, the ability to maintain superior observation, targeting, and imaging capabilities is of paramount importance. With advancements in optronics applications driving innovation, Exail stands at the forefront, delivering cutting-edge gyrostabilization platforms that redefine stability and performance. Let's discover our latest offerings, the Exail Stab Leos L and Leos S, a new compact and lightweight gyrostabilized pan and tilt system designed for high-resolution active sensors with low beam divergence.

Leos S: smaller, lighter, and equally powerful

Leos S is a two-axis pan and tilt system with impressive performance features. It represents the next generation of compact gyrostabilization technology. Crafted with precision engineering and attention to detail, this platform sets a new standard for portability and performance.

Its compact size fits within a $\varnothing 379 \times 365$ mm-wide cylinder and it can accommodate payloads of up to 25 kg on the move. Despite its smaller and lighter form factor, Leos S packs a powerful punch, delivering uncompromising stability and accuracy for high-demanding optronics applications. With an impressive gyrostabilization line of sight of $<100 \mu\text{rad}$, it provides smooth and jitter-free observations and targeting capabilities, ensuring that sensors, cameras, and optronic equipment accurately maintain their focus even in the most challenging environments and under dynamic conditions. Leos S is designed to seamlessly integrate into a wide range of sea-based and land defense mobile platforms such as armored personnel carriers, infantry fighting vehicles, main battle tanks, etc. Its compact size ensures agility and maneuverability, making it an ideal choice for missions requiring quick adaptability. From surveillance and reconnaissance operations to search and rescue missions, border control, and more, Leos S caters to a diverse set of defense operations, enhancing the efficiency and effectiveness of operations.

Leos L: unparalleled stability

For defense applications where absolute stability and accuracy are critical, the Exail Leos L stands as a beacon of excellence. This larger and more robust two-axis platform sets the industry benchmark for gyrostabilization, delivering unmatched performance in the most demanding scenarios.

Boasting excellent gyrostabilization capabilities, achieving stabilization down to $20 \mu\text{rad}$, Leos L is meticulously engineered to provide the highest level of stabilization, ensuring highly precise and reliable results for on-the-move optronics sensors, whatever the movement of the platform. With a position accuracy of 0.01° , Leos provides swift and precise positioning. With its angular speed of up to $120^\circ/\text{s}$ and acceleration of up to $150/\text{s}^2$, it enables longer detection, reconnaissance, and identification (DRI) ranges, granting defense professionals greater situational awareness and operational advantage. Qualified with various industry and military standards, Leos L has been built to withstand extreme shocks, vibrations, temperatures, and intense environmental factors. It is thus a dependable companion for naval and land defense missions requiring rugged performance.

Empowering defense professionals worldwide

The Stab Leos S and Leos L Series include several platforms equipped with various MEMS and FOGs gyroscopes, providing customers with a range of options based on their tolerance to bias drift and desired level of gyrostabilization. This adaptability empowers defense customers to select the platform that precisely suits their missions' unique requirements. On top of this comprehensive range, Exail also offers tailor-made solutions for projects that require extra customization.

"As defense technology continues to advance, Exail remains committed to empowering navies and armies worldwide with state-of-the-art gyrostabilization solutions. With its exceptional performance, Leos Series enables military platforms to maintain optimal sensor capabilities while in motion, significantly enhancing operational effectiveness, survivability, and situational awareness" says Bruno Crépy, Head of Stabilized Platforms at Exail. By providing superior stabilization, extended detection ranges, and support for high-resolution sensors, Leos Series empowers defense forces with the tools they need to excel in modern warfare scenarios.

About Exail

Exail is a leading high-tech industrial company specializing in cutting-edge robotics, maritime, navigation, aerospace and photonics technologies. With a strong entrepreneurial culture, Exail delivers unrivaled performance, reliability and safety to its civil and defense clients operating in severe environments. From the deep sea to outer space, Exail expands their capabilities with a full range of robust in-house manufactured components, products and systems. Employing a workforce of 1800 people worldwide, the company benefits from a global footprint and conducts its business in over 80 countries. Exail was formed by ECA Group and iXblue joining forces in 2022. It is a subsidiary of Exail Technologies, a family-owned company specialized in high-technology.

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