



PENLINK

INTRODUCTION

Inertial Sensor Solutions For Precision And Real-time Data

Complete inertial sensor solution for platform applications that require high precision with real-time information. Our partnership with a leading provider of gyroscopes ensures top-tier technology for your needs in platform technology.

Penlink offer advanced gyroscopes designed to optimize platform performance in a wide range of applications. In today's dynamic and demanding environments, precise and reliable measurement of motion, orientation, and acceleration is essential for achieving optimal performance, safety, and efficiency in platform-based systems. Whether for defense and surveillance, marine exploration, autonomous vehicles, or industrial automation, our comprehensive range of inertial sensor solutions offers cutting-edge technology to meet the diverse needs of modern platforms.

In this application note, we will explore the key features, technical specifications, advantages, and relevant applications of our inertial sensor solutions. From customizable options and environmentally rugged designs to seamless

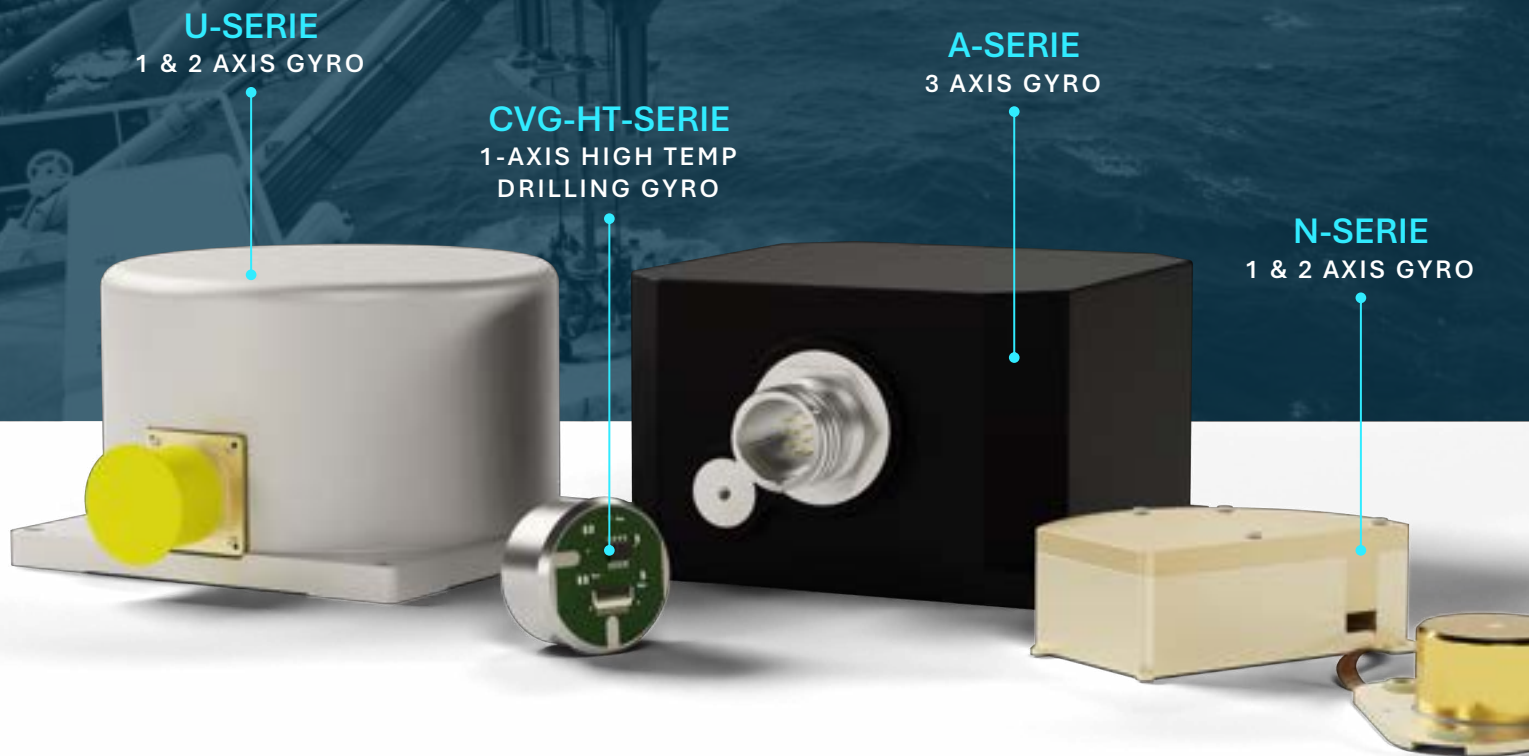
integration capabilities, our gyroscopes are engineered to deliver exceptional performance in even the most challenging operating conditions.

Land Applications:

- + Pan & tilt mechanisms
- + Stabilized electro-optics
- + Autonomous vehicles

Offshore & Subsea Applications:

- + Remotely operated vehicles (ROVs)
- + Active heave winches
- + Offshore cranes



INERTIAL SENSORS

Gyroscopes For Stabilization

Harnessing cutting-edge Coriolis technology, our gyroscopes ensure unparalleled precision and reliability in maintaining platform stability. Designed for demanding environments, our gyroscopes offer exceptional angular stability and robustness, making them indispensable across a myriad of applications, from naval stabilization platforms to subsea missions and land-based systems.

Our gyroscopes deliver precise and reliable performance across diverse platform applications. Whether navigating turbulent seas, exploring the depths of the ocean, or traversing rugged terrain, our gyroscopes guarantee stability and accuracy in every scenario. Built upon advanced Coriolis technology, they're the trusted choice for industries demanding top-tier performance and durability in challenging environments.

- + **True Tactical Grade Performance:** Leveraging Coriolis technology, our gyroscopes offer unparalleled accuracy and consistency in platform stabilization.
- + **Configurable Versatility:** Highly adaptable to various applications, seamlessly integrate with other products from our range, ensuring seamless compatibility and ease of use.
- + **Rugged Reliability:** Engineered for longevity and reliability, ensuring uninterrupted operation in demanding conditions.
- + **Customization Options:** With both unmounted and mounted configurations, along with customization and integration options, our gyroscopes provide tailored solutions to meet the unique needs of every application.



PENLINK SOLUTION

Technical Brilliance

Accuracy: Our gyroscopes offer exceptional accuracy, with typical errors ranging from ± 0.1 degrees per hour ($^{\circ}/\text{hr}$) to $\pm 0.01^{\circ}/\text{hr}$, depending on the specific model and configuration.

Resolution: With resolutions as fine as $0.001^{\circ}/\text{s}$ (degrees per second), our gyroscopes provide detailed and granular data, allowing for precise monitoring and control of platform movements.

Sampling Rate: The gyroscope support sampling rates ranging from 100 Hz to 1000 Hz, ensuring high-frequency data capture for real-time monitoring and analysis of platform dynamics.

Operating Temperature Range: Designed to withstand extreme environmental conditions, our gyroscopes operate reliably across a wide temperature range, from -40°C to $+85^{\circ}\text{C}$. The extended operating temperature range ensures consistent performance in harsh environments, such as desert climates, Arctic regions, or industrial settings with extreme heat or cold.

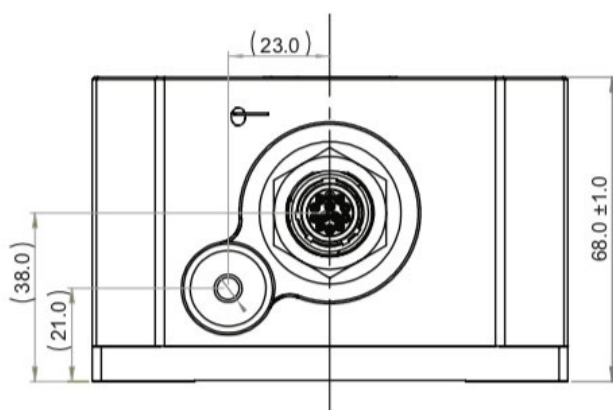
Power Consumption: The gyroscope is engineered for energy efficiency, with low power consumption levels ranging from 100 mW to 500 mW, depending on the operational mode and configuration. This low power consumption extends battery life and

reduces overall energy costs, making our sensors ideal for battery-powered or portable applications.

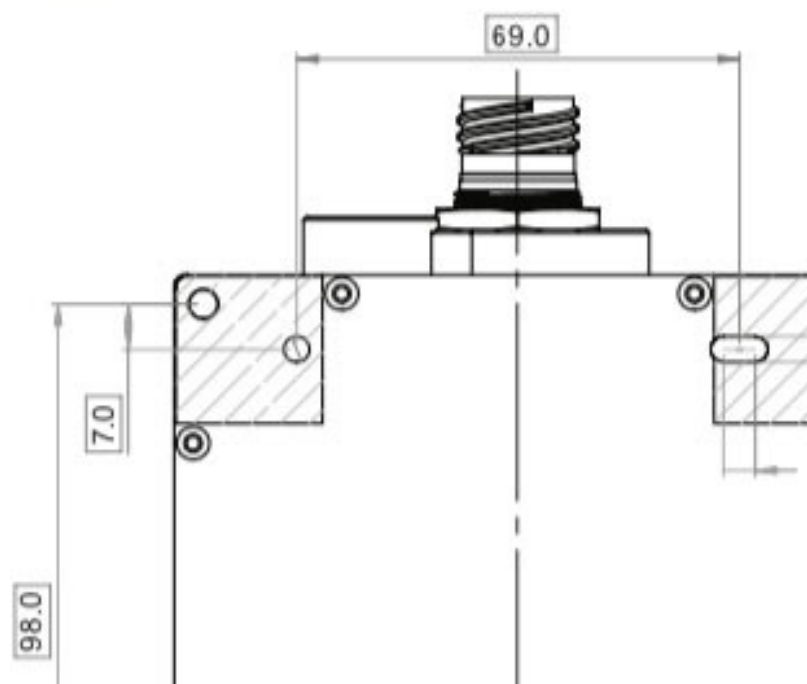
Certifications and Compliance: Our gyroscopes comply with industry standards and certifications, including CE, RoHS, and ISO 9001:2015, ensuring product quality, reliability, and safety. Additionally, our sensors are tested and validated for compliance with specific industry requirements, such as MIL-STD-810G for military applications or IP67 for waterproofing in marine environments.

Data Interfaces: The gyroscope support various data interfaces, including analog voltage outputs, digital serial interfaces (such as SPI or I2C), and Ethernet connections, providing flexibility for integration with different platform systems and communication protocols.

Calibration and Calibration Interval: Each of our gyroscope models undergoes rigorous calibration procedures to ensure accuracy and reliability. Calibration intervals vary depending on usage conditions and environmental factors but typically range from six months to two years, with options for on-site or factory recalibration services.



Example of A-Series Drawing, contact our sales team for more in-depth information.





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CONCLUSION

Optimizing Platform Performance: Advanced Inertial Sensor Solutions for Precision and Reliability

In conclusion, our inertial sensor solutions, in partnership with leading gyroscopic technology, offer unparalleled precision and reliability for platform applications. With customizable options, environmentally rugged designs, and seamless integration capabilities, our solutions are tailored to meet the diverse needs of modern platforms.

Whether for defense & surveillance, marine exploration, autonomous vehicles, or beyond, our inertial sensor technologies empower you to achieve exceptional performance and efficiency. Contact us today to discover how our solutions can elevate your platform technology to new heights.



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