PENLINK

Components for
Space Applications

We offer a wide range of custom components that are suitable for low-orbit and deep-space applications. The specifications and configuration are built in close cooperation with the customers in order to ensure high performing components. All the components that are designed for space are based on our unique and well tested technology which provides the customer with reliable, accurate and outstanding performing solutions for space applications.

+ Encoders
+ Gyroscopes
+ Accelerometers
+ Imaging

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Space Applications

Space applications are numerous. From electro-optical and radar cameras, laser-based navigation and guiding systems, to actuators and robotic arms. In addition to the common requirements of launch conditions, ruggedization, vibration, and athermalized, the components should be uncompromisingly lightweight and durable while operating in a vacuum and high cosmic radiation environment.

All these values, together with our collaborative and flexible method of operation, allow us to offer high-performing components specifically for critical systems in space.

Space Requirements Capabilities:

+ Shock
+ Vibrations
+ Thermal cycles under vacuum
+ Ruggedized
+ Cosmic Radiation

The Ultimate Position Sensor

Most space applications requires high resolution sensors for extremely accurate and smooth low speed movement for long-distance optical stabilization. It also requires that the components have high levels of integration possibilities, which will help to reduce the system size and complexity.

Based on our standard line of absolute position electric encoders we can add housing and special outgassing materials that meets the requirements for space applications. Our ability to design, manufacture and test special designs means that we can deliver a component that will fit your application and that you can rely on.

Features and advantages

+ Analog and digital interfaces.

+ Compact, low profile, lightweight and hollow-shaft (high-level of integration for a small size system design)

+ Framed IP65 enclosure or encapsulated 2 plate designs.

+ Immune to magnetic interference: Can be very close to the frameless motor magnets.

+ High resolution & accuracy (very low pace and step moving accuracy and repeatable standstill positioning)

+ Standard digital serial interfaces, SSi and SSi2.

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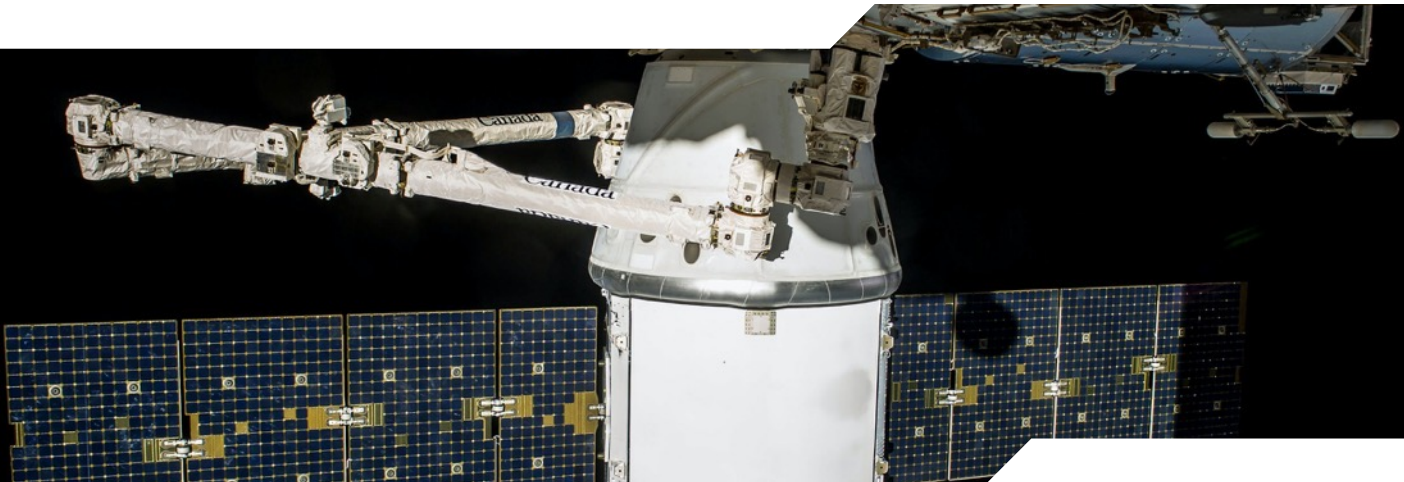
Rad-Hard Space Gyroscopes

Many satellites require sensors to provide critical functions such as stabilization, pointing, speed measurement and cruise rotation. To achieve this, sensors must have an ultra-low random walk, excellent gyro drift, be Rad-Hard, reliable and lightweight.

The N-Series gyroscopes are a range of industrial and tactical grade gyroscopes that delivers less than <10°/hr over the full temperature range. The high gain of piezoelectric elements delivers best in class noise performance. The control electronics operate in a closed-loop mode providing a high system bandwidth, which is essential when operating in highly dynamic environments.

These gyroscopes can facilitate customized mounting solutions and, due to their high dynamic range, low noise and high MTBF, combined with the small size make this gyroscope family the ideal choice for platform stabilization.

Applications

+ Geostationary Earth Orbit (GEO)
+ Low Earth Orbit (LEO)
+ Medium Earth Orbit (MEO)
+ Telecommunication Satellites
+ Exploration Missions
+ Long-life Missions

Rad-Hard Space Accelerometer

We offer a rad-hard Delta Velocity Measurement Accelerometer based on successful quartz pendulum accelerometer products and heritage. It measures the velocity change and transitions of satellites in orbit.

The primary application of this accelerometer is navigation and Fault Detection Isolation and Recovery (FDIR) on board satellites as well as for land, marine, and aerospace applications. The accelerometer objective is to qualify a space-grade accelerometer that will withstand 30krad.

Features and Advantages

+ A Rad-Hard navigation grade accelerometer meeting ESA ECSS standards for any space platforms.

+ Its main application is navigation and Fault Detection Isolation and Recovery (FDIR) onboard satellites as well as for land, marine, and aerospace applications.
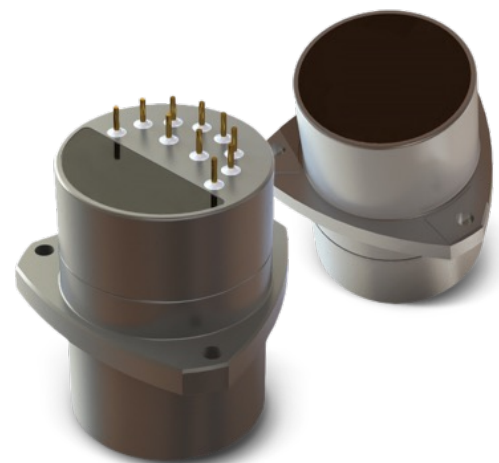
Aerospace Imaging Solutions

We offer camera cores as SWaP (size, weight, and power) optimized, athermalized and ruggedized to withstand launch conditions and maintain optical performance while being exposed to the extreme operating conditions experienced in space. Our in-depth knowledge and experience allow us to work with OEMs and integrators to offer unique custom design features that meet your imaging requirements.

We also offer imaging sensors for support of the exploration missions in space. Integration of our wide range of sensors, detectors and intensifier tubes has for years created innovative custom solutions. With these OEM components you can focus or collimate X-rays, identify compositions of asteroids and planetary atmospheres, observe behaviors of weather, solar winds and auroras, categories solar flares and discover distant planets, gamma ray bursts, black holes, and galaxies.

Our imaging sensors have been awarded both by NASA and ESA and have been honored to witness our products launch into space to begin their missions, knowing our products will provide science data and contribute to new discoveries for many years - even decades - to come.
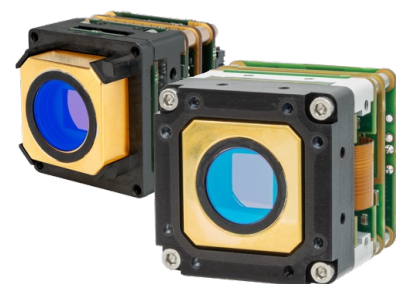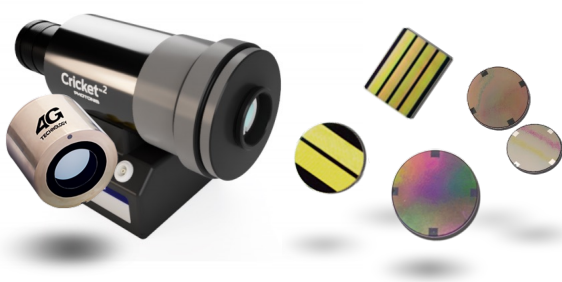
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Get in touch with us today to start your next project!

Engineering &
Product design

Inspection &
Quality management

Simulation &
Design verification

Assembly &
Testing

Advanced
Manufacturing

Value-Added
Products & Services

We supply only the best solution for each and every industry, get in touch with us to learn more about your possibilities when working with Penlink.

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