PENLINK

Absolute Rotary Encoders for Industrial Automation

Our high precision rotary encoders are designed with new Q-Core processing, enabling quick and precise positioning. The VLX and DS product lines offer low-cost OEM position sensors for automotive, medical, robotics, and industrial automation applications.

The extremely compact and low-profile design fits into the demanding design of the robotic joint. It can be used both for position feedback and for optimizing the commutation of the frameless motor while enabling passage of leads through the hollow shaft.

Application Focus

Industrial Robots and Collaborative robots
Medical and Surgical Robots
Wafer Handling in the Semiconductor Industry

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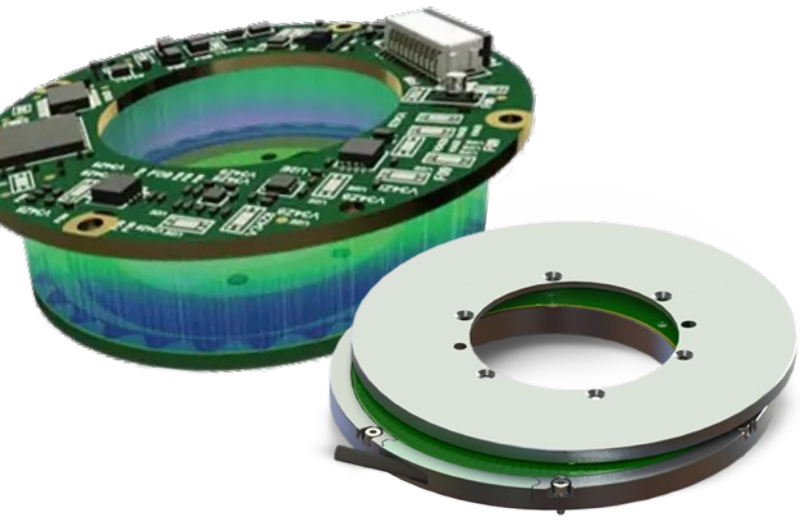
The Ultimate Position Sensor

Designed and manufactured under ISO 13485:2016 standard for medical devices, our encoders provide the reliability and accuracy required by your new high-end medical device. With full resistance to magnetic fields the electric encoder is very suitable for the tight mechanical designs of servo drives and motors. The contact-less design enables accurate, fast, and controllable motion with zero particle generation.

Typical Environment Conditions

EMC	IEC 6100-6-2, IEC 6100-6-4
Operating Temp. Range	-25°C to +65°C
Relative Humidity	< 98% non-condensing
Shock Endurance	100 g for 11 ms
Vibration Endurance	20 g for 10 to 2000 Hz



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APPLICATION NOTE

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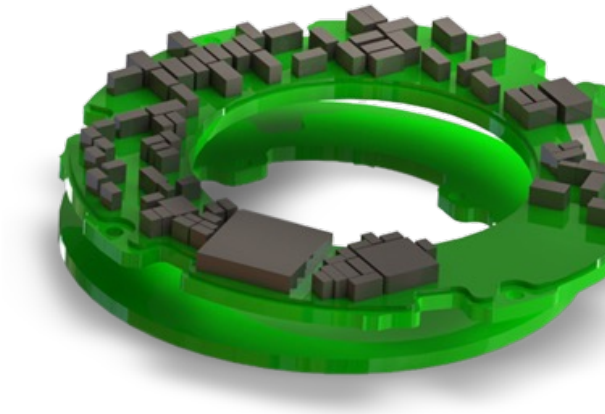
Encoders for Industrial Robots and Cobots

The “Cobot”, a compact anthropomorphic arm joint, is often designed for flexible production lines with a compact layout and high accuracy to allow precision assembly. This means that they need reliable position data for high accuracy and stability.

The electrical encoder can be incorporated in the robotic arm with frame-less motor and servo drive. We offer the VLX 60 which is compact, low profile, lightweight and has a wide bore, allowing high-level integration for a low-profile arm joint design. It’s frame-less and contact-less with negligible weight, introducing no extra mass or inertia (load) to the system.

Features and advantages

+ Total immunity to magnetic interference: Can be positioned very close to the frameless motor magnets.
+ High resolution 19 bit & accuracy < 0.010deg for smooth and high accuracy rotation with high reputability of 1 count.
+ Standard digital serial interfaces, SSi, BiSS.
+ Special safety algorithms with real-time BIT (Built-In Test) over SSi or BiSS.



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APPLICATION NOTE

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Encoders for Surgical Robots

For some medical procedures, the human hand is not as ideal as surgical robots. In such procedures where the human hand is not considered stable enough with a scalpel, its mere size is not adequate, or where multi-joint/multi-articulation is required in order to access hard-to-reach places, surgical robots are becoming more and more prevalent. It is typical to find such surgical robots performing spine operations, delicate brain surgery, as well as interbody probes reaching the abdomen without a costly and dangerous full surgical operation.

Our miniature DS-16 electric encoder is a reliable and high-precision encoder that provides excellent and repetitive performance, and its miniature dimensions are specifically designed to be incorporated in the design of high-end surgical robots, allowing accurate and reliable measurement of the robotic arms' exact position during the entire surgical procedure.

The DS line of encoders is immune to magnetic fields and resistant to "surgical energy" and provides a stable position measurement under the demanding environment of remote surgery, meeting the highest standards required from the surgical robots by the certification authorities.

Features and advantages

+ Lightweight miniature absolute rotary encoder
+ Hollow floating shaft
+ No bearing or other contacts
+ High precision
+ High tolerance to temperature extremes, shock,
+ EMI, RFI and magnetic fields
+ Digital interfaces for absolute position

Absolute Rotary Encoders for Industrial Automation

APPLICATION NOTE

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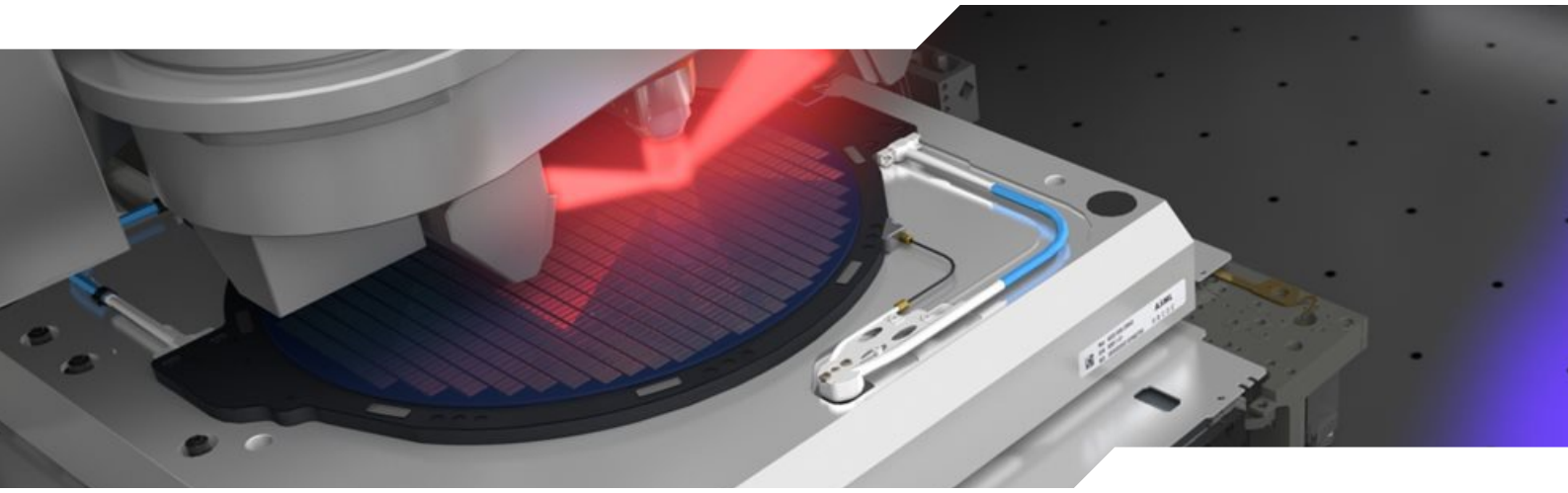

Encoders for Semiconductors

For semiconductors it's important to control the polarizer rotary axis of the machine. This system is used in the testing process to support the development and production of micro-IC devices.

Our encoders can be incorporated on the load with a near-by frameless motor and servo drive. The compact, low profile, lightweight and wide bore allows for high level and easy integration for a low-profile design. With the frameless and contact-less body and a negligible rotor weight there will be no operating mechanical parts, which results in a long-lasting operational time and causes no extra weight & inertia (load) to the system.

The encoders are immune to magnetic interference: Can be very close to frameless motor magnets. High resolution 17-19 bit & accuracy < 0.010 deg for smooth and high accuracy rotation with high repeatability of 1 count.

Features and advantages

+ Standard digital serial interfaces, SSi, BiSS.
+ Special safety algorithms with real-time BIT (Built-In Test) over SSI or BiSS.

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Get in touch with us today to start your next project!

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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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