

**Empower Productivity:****Encoders from the HEIDENHAIN GROUP provide optimum motor feedback and increase productivity, reliability, and quality at every level of automation**

*HEIDENHAIN and its brands AMO, RENCO, and RSF will be showcasing innovative motor feedback solutions for automation and robotics at SPS 2025 in Nuremberg, Germany. These solutions include the versatile and thoroughly compatible platform of ECI and EQI inductive rotary encoders from HEIDENHAIN, now expanded with the ECI 1116. Additional solutions are dual encoders from HEIDENHAIN, secondary encoders from AMO and RSF for advanced robotics, and the HEIDENHAIN ECI 1323 Splus and EQI 1335 Splus rotary encoders capable of vibration analysis.*

**A new member of the ECI and EQI rotary encoder platform: the compact ECI 1116**

Thanks to their modular design, the ECI and EQI inductive rotary encoders from HEIDENHAIN give drive-system manufacturers numerous options for adapting motor feedback to their specific applications without needing to change their systems' electronic or mechanical interfaces. The mechanical mounting interfaces of these rotary encoders are fully interoperable within each series: the 1100 series with a 35 mm diameter and the 1300 series with a 56 mm diameter. These encoders are also mechanically compatible with many other identically sized rotary encoders within the HEIDENHAIN product range, including the ECN/EQN 1300 optical rotary encoder series. Meanwhile, the digital EnDat 3 data interface enables functionally safe applications up to SIL 3 without additional measures.

At SPS 2025 in Nuremberg, HEIDENHAIN is rounding off the product family with a new basic encoder. The ECI 1116 is available only as a singleturn device with 16-bit resolution. Despite its modular design, it is fully compatible with the mechanical interfaces of the other encoders in the 1100 series. And, it offers functional safety up to SIL 2.

**More accuracy and reliability for cobots: dual encoders and secondary encoders for collision monitoring**

Delivering positioning feedback both upstream and downstream from a robot joint's gear systems increases robot accuracy. This can be achieved with HEIDENHAIN dual encoders or with conventional motor encoders that are combined with AMO or RSF secondary encoders. But greater robot accuracy is not the only benefit. This arrangement can also detect the effects of forces acting on the gear systems of individual robot joints, including collisions. Cobot manufacturers can therefore use this added capability to implement targeted collision monitoring without the need for additional torque sensors. A demonstration unit consisting of a cobot with these types of HEIDENHAIN rotary encoders will demonstrate force measurement and how it adheres to safety limits.

**Built-in vibration analysis reduces the need for extra sensors and simplifies the mounting process: the ECI 1323 Splus and EQI 1335 Splus inductive rotary encoders from HEIDENHAIN**

Early detection of machine vibration is vital for ensuring smooth processes, perfect results, and machine longevity in high-performance and capital-intensive automation systems. Early detection makes it easier to prevent scrap, machine damage, and system downtime.

The ECI 1323 *Splus* and EQI 1335 *Splus* inductive rotary encoders from HEIDENHAIN with a built-in accelerometer and integrated vibration analysis are a particularly convenient

solution for detecting and analyzing vibrations arising from machine elements. These encoders unite position feedback and vibration analysis, and thus motion control and collision monitoring, within a single device. The link they establish between vibration and position signals also makes it easier to identify the type and location of the vibration's source. An external temperature sensor can be connected to these encoders as well.

The ECI 1323 *Splus* and EQI 1335 *Splus* thus enable targeted online condition monitoring, allowing machine faults to be detected and analyzed at an early stage. Based on this condition monitoring data, machine operators can implement predictive maintenance to optimize their machine servicing intervals in accordance with wear levels as well as adapt their production schedules based on imminent breakdowns.

All data from the ECI 1323 *Splus* and EQI 1335 *Splus* encoders is transmitted through the EnDat 3 interface, thereby eliminating the need for separate vibration sensors and significantly reducing the cabling and installation complexity.

### **Modular angle measuring systems from AMO and RSF: secondary encoders for wide-shaft robotics motors**

Robot manufacturers can significantly improve the absolute position accuracy of their robots by adding a high-accuracy angle encoder on robot axes. Installed downstream from the gear system, secondary encoders determine the actual position of every robot joint, thereby enabling numerous new robot applications. Modular solutions, such as the WMRA angle encoder from AMO or the new MCR 16 angle encoder from RSF, are available solutions. Thanks to their modular design with a scale drum or measuring ring and a separate scanning unit, they are ideal for large shaft diameters and tight installation spaces. The inductive secondary encoder solutions from AMO feature high robustness and a versatile mechanical design. The MCR 16 from RSF delivers optical scanning with improved signal quality for absolute position measurement on axes with large diameters.

### **HEIDENHAIN at SPS from November 25 to 27, 2025: Hall 7, Booth 494**

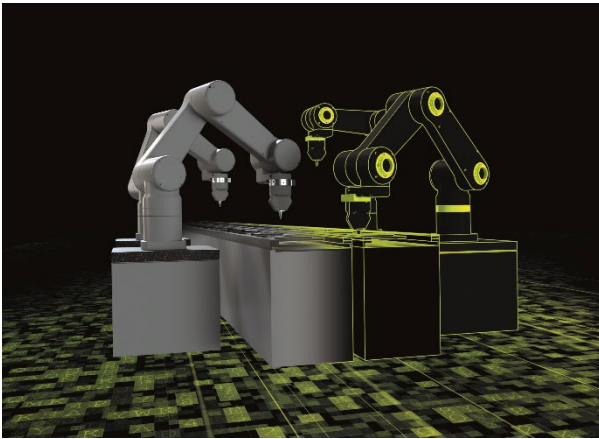
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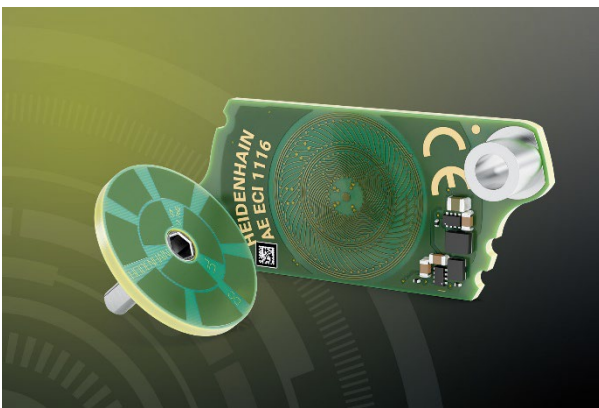
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*Empower Productivity: HEIDENHAIN and its brands AMO, RSF, and RENCO offer the optimum solution in the form of rotary encoders for every task in automation and robotics.*



*New at SPS 2025 in Nuremberg: The ECI 1116 expands the platform of inductive rotary encoders from HEIDENHAIN.*



*Versatile platform: The ECI and EQI inductive rotary encoders from HEIDENHAIN, featuring the EnDat 3 interface and two different mechanical interfaces, deliver optimal motor feedback for every performance level of automated application.*



*Higher accuracy and collision monitoring without additional torque sensors: A demo unit at the HEIDENHAIN booth will be demonstrating the benefits of dual encoders and secondary encoders for cobots.*