**New from HEIDENHAIN at SPS:**

**The ECI 123 D*plus* inductive rotary encoder with built-in vibration analysis**

*Featuring a built-in accelerometer, the new HEIDENHAIN ECI 123 Splus rotary encoder enables position measurement and vibration analysis in a single component. This added functionality simplifies condition monitoring and maintenance planning in high-wear automated systems.*

Detecting vibrations early on is vital for achieving smooth processes, perfect results and long service life in high-performance production automation systems. The earlier the detection, the easier it is to prevent scrap, machine damage and system downtime. By integrating an accelerometer into a rotary encoder, HEIDENHAIN has created a new and convenient solution for detecting and analyzing vibrations on rotating machine elements: the inductive ECI 123 *Splus*.

The ECI 123 *Splus* delivers position feedback and vibration analysis in a single device. Users benefit from combined motion control and condition monitoring on their rotating machine elements. Linking vibration data with position feedback makes it easier to determine the type and location of the vibration’s source. And for even more condition data, the ECI 123 *Splus* supports up to three connected external temperature sensors. All this data is reliably transmitted for further processing by the EnDat 3 interface. This unique combination of functionality saves on additional vibration sensors while simplifying cabling and installation.

How does the ECI 123 *Splus* measure machine vibration? With a built-in 3-axis accelerometer and a microcontroller for on-device vibration analysis, including initial order analysis for up to 64 orders. For further analysis later on, the encoder’s EnDat 3 interface transmits the purely serial data to the user’s downstream electronics. There, OEMs can individualize their analysis based on timing, type, trigger, speed range and measured axis, as well as monitor this data over time for changes to the relevant orders.

In sum, the ECI 123 D*plus* supports customized online condition monitoring for early fault detection and detailed error analysis. Based on real-world data, machine users can leverage predictive maintenance to optimize machine servicing intervals and anticipate irregular maintenance before malfunctions occur. And when this data is collected over an extended period, users can accurately gauge a machine’s remaining service life.

**HEIDENHAIN at SPS 2023 in Nuremberg, Germany: Hall 7, Booth 7-494**

***For more information, visit:***

[robotics.heidenhain.com](https://news.heidenhain.com/de/automatisierung)

[www.heidenhain.com](http://www.heidenhain.com)

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|  | *The HEIDENHAIN ECI 123 Splus: Equipped with a built-in accelerometer and vibration-processing microelectronics, this encoder provides position feedback and vibration analysis in a single device. The resulting data enables optimal condition monitoring and predictive maintenance for high-wear automation axes.* |