**New motion systems and encoders from the HEIDENHAIN Corporate Group at SEMICON West: intelligently merging accuracy and productivity**

*With the motto, “Where accuracy meets throughput,” HEIDENHAIN, ETEL, NUMERIK JENA, and RSF Elektronik will be showcasing new solutions for front-end and back-end processes in semiconductor manufacturing and electronics applications at SEMICON West. In addition to high-accuracy position measurement, focus will go to the integration of drive system technology, position measurement technology, and control technology into mechatronic production solutions with high productivity.*

Motion systems from ETEL feature an absolute position accuracy down to less than 1 µm, combined with extremely high accelerations and precision motion. These traits apply to the newly developed TELICA, which will be unveiled for the first time at SEMICON West, as well as to the field-proven VULCANO and CHARON 2 platforms. The exceptional characteristics of these motion systems are due in no small part to optical encoders from HEIDENHAIN:

* Dynamic accuracy

The low interpolation error of HEIDENHAIN encoders improves the performance of the linear motors and thus reduces heat transfer to the machine—even in highly dynamic applications. Through the resulting reduction in thermally induced error, the system exhibits greater accuracy and the same highest dynamics. Measurement accuracy is further enhanced by the encoders’ non-thermally expanding ZERODUR scales. Low position noise and a low baseline error of less than ±0,175 µm over a 5 mm interval also contribute to the exceptional accuracy and high dynamics of these motion systems.

* Position stability at high throughput operation

The motion systems were designed with extreme position stability in mind. In close collaboration, HEIDENHAIN and ETEL have developed a special solution for integrating the measurement systems. This design succeeds in protecting the encoders from possible heating, such as through the drive system, thereby shielding the measurement loop from thermally induced linear error.

At SEMICON West, NUMERIK JENA will be presenting its LIKgo exposed incremental linear encoder. Thanks to its compact dimensions, small grating period, very small measurement steps, and other features, this encoder is well suited for use in production and inspection equipment in the semiconductor industry. The scanning head is a mere 28 mm long, 13 mm wide, and 7.5 mm high. The measuring standard is only 8 mm wide and features a grating period of 20 µm. As a result, measuring steps as small as 78.125 nm are attainable.

For position measurement and speed control in torque motors, RSF Elektronik has developed the MCR 15 absolute modular angle encoder. It is available in numerous variants for outside diameters of 59.93 mm to 350.23 mm and with various serial interfaces. Depending on the diameter, the MCR 15 angle encoders attain a system accuracy down to ±10 arc seconds and measuring steps as small as 0.038 arc seconds.

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|  | *Unveiled for the first time at SEMICON West:*  *The new TELICA motion system combines ETEL motion control technology with HEIDENHAIN encoders into a highly integrated solution that merges accuracy and throughput for the semiconductor and electronics industries.* |

**HEIDENHAIN, ETEL, NUMERIK JENA, and RSF Elektronik at SEMICON West:**

**July 9 – 11, 2019, San Francisco Moscone Center, Booth 851**

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

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

[www.etel.ch](http://www.etel.ch)

www,numerikjena.de

www.rsf.at

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