21241 S. Western Ave., #140
Torrance, CA 90501
Ph: 310-540-7310
Fax: 310-540-7930
Web site: www.seikausa.com

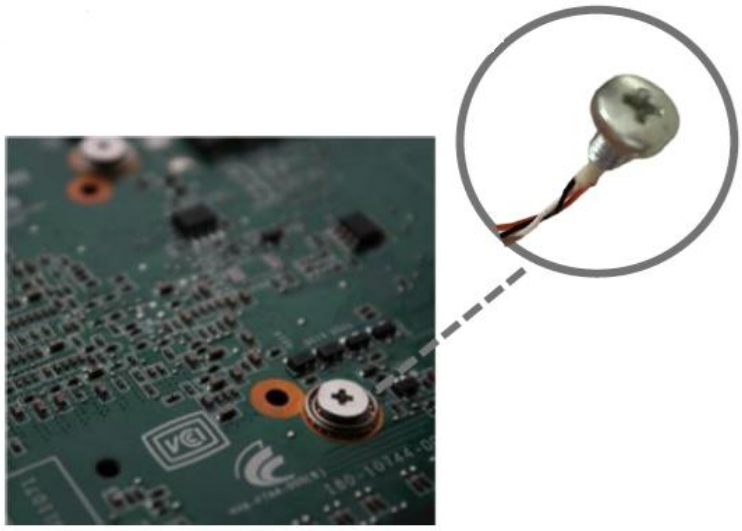
For Immediate Release

Contact
Seika Machinery, Inc.
310-540-7310
E-mail: info@seikausa.com
Web site: www.seikausa.com

Beyond Torque: New Seika Machinery Webinar Reveals How Strain Gage Technology Exposes Hidden Bolt Axial Force Risks in Battery and PCB Assemblies

TORRANCE, CA — February 2026 — Seika Machinery, Inc., a leading provider of advanced machinery, materials and engineering services, will host a live technical webinar, *"Strain Gage Based Bolt Axial Force Measurement – Effects of Vibration and Temperature in Battery and PCB Fastening,"* on Wednesday, March 4th at 10:00 am. Engineers and manufacturing professionals can register here: https://us02web.zoom.us/webinar/register/WN_0gNNnro3TyC5dqfan-jt1A.

As electrification advances and electronics become more compact and power-dense, fastening reliability has become increasingly critical. Vibration and temperature fluctuations can significantly alter bolt axial force in battery systems and PCB assemblies, potentially leading to loosening, degraded electrical contact, and long-term reliability failures. These changes are often undetectable through torque control methods alone.



（Measurement on PCB）

The webinar introduces strain gage-based bolt axial force measurement as a quantitative method for directly evaluating fastening conditions. The session will highlight BoltEye™ bolt axial sensors from Kyowa, which are customized by drilling the bolt, bonding strain gages, and routing lead wires to enable real-time axial force measurement.

Available for a wide range of bolt sizes—from M3 screws used in PCB assemblies to M64 bolts for heavy applications—BoltEye sensors can be customized for various bolt shapes and materials. The sensors are capable of measuring axial force during tightening, as well as monitoring loosening caused by vibration, high temperature, and thermal cycling. Measurement capability extends up to 300°C, making the solution suitable for demanding battery and power electronics environments.

A key focus of the webinar will be measurement stability. Compared to conventional embedded strain gage methods, Kyowa's heat-crimping technique to the inner surface of the bolt hole provides improved zero return performance and greater stability under both room and elevated temperature conditions. The session will also address common challenges such as drift, creep during temperature cycling, and maintaining accuracy above 40°C.

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To ensure reliable data, Seika and Kyowa provide load calibration and temperature characteristic data for customized bolt axial sensors. Calibration is performed using data loggers traceable to national standards, allowing accurate conversion from strain output to true axial force. Temperature characteristic data supports correction when measurements are conducted under changing thermal conditions—an essential requirement in battery testing and PCB validation.

By directly visualizing axial force rather than inferring it from torque, strain-based measurement provides valuable insight for design validation, reliability assessment, and troubleshooting. Engineers gain a clearer understanding of joint behavior under real-world operating conditions, supporting improved product durability and long-term performance.

The webinar is especially relevant for design engineers, manufacturing engineers, quality professionals, and reliability teams working with battery systems, EV components, power electronics, and PCB assemblies.

For more information, contact Michelle Ogihara at 310-540-7310; e-mail michelle@seikausa.com; or visit www.seikausa.com.

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About Seika Machinery, Inc.
Seika Machinery, Inc. (SMI) is a subsidiary of Seika Corporation, Japan and member of the Mitsubishi Global Group. SMI provides electronics manufacturers with advanced machinery, superior materials and engineering services.