

# Fastener Innovation Alley

compiled by Fastener World

## Rivet Mounting System for Genius Trackers

GameChange Solar, a leading U.S.-based provider of PV trackers and fixed-tilt racking systems from Connecticut, has unveiled an innovative two-piece rivet mounting solution compatible with its Genius series trackers. This alternative delivers faster field installation, reduced long-term costs versus bolt methods, and proven reliability through independent and internal lab testing.

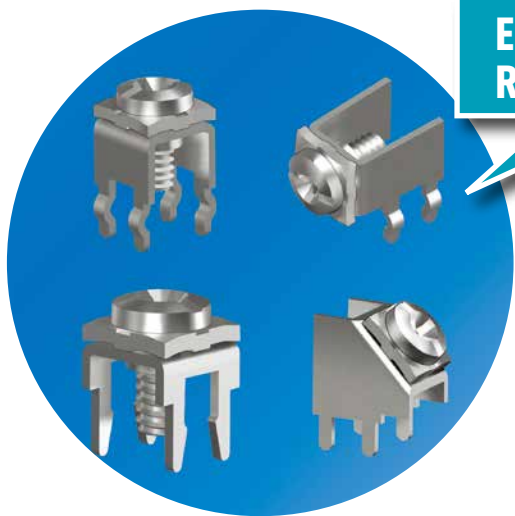
The rivet system—featuring a rivet pin and tubular collar—employs a rivet gun for automatic locking and pin trimming, bypassing torque adjustments entirely. Unlike bolt connections through pre-punched holes that demand regular tightening for environmental resilience, this design ensures permanent tightness and durability. Targeted at EPC firms as a bolt replacement, the solution has passed rigorous UL 2703 testing for structural integrity, electrical grounding, and flat-type PV module performance. Certification came from third-party Intertek labs and GameChange's in-house facilities, with zero failures. Installation and removal tools were validated at the company's training center, confirming real-world deployment efficiency. This advancement streamlines solar project timelines while enhancing system longevity for developers.



## Enhanced Screw Terminals with Anti-Rotation Feature for Compact PCBs

Keystone Electronics unveils an upgraded SEMS screw variant for its PCB screw terminals, **designed to streamline wire connections and boost mechanical reliability in dense board assemblies**. The pre-assembled SEMS screw enables secure fastening of wire leads—including bare wires—without the rotation issues common during tightening.

Rated for 15- and 30-amp applications, these terminals feature an anti-rotation, non-wobbling structure ideal for high-density PCB layouts. The SEMS screw incorporates a captive, free-spinning lock washer that preserves clamping pressure and stops wire spin under torque. Available in horizontal and vertical orientations, they suit diverse board configurations. Constructed from tin-plated brass, the terminals ship either fully assembled with SEMS hardware or as components for custom integration. Keystone distributes them via its worldwide network and e-commerce platforms, alongside its extensive interconnect solutions and custom machining, stamping, and assembly services.



## "Tentacle" Anti-Loosening Nut with New M2 Size



Japanese YS Corporation has developed the "Tentacle® Nut", based on years of screw research that thoroughly analyzes nut loosening causes. This patented product is now expanding into the market. Designed like an octopus tentacle "firmly wrapping" bolts, it fits standard M6, M8, M10, M12, and M16 bolts, with the latest addition of M2 size for more precise applications. Loosening mainly occurs due to vibration causing cumulative thread gap shifts. **"Tentacle Nut" uses a double-nut structure where the upper nut compresses the lower nut's protrusion, filling tolerance gaps to ensure axis alignment and no bolt damage. The lower nut manages torque and tension, with easy removal by reverse rotation from upper to lower.** Ideal for vibrating machinery in factories, amusement rides, towers/bridges, or high-temperature sterile environments, it enhances safety and maintenance-free operation. In NAS3350 impact tests (30Hz, 30,000 vibrations) it retained over 80% tension; DIN25201 vibration tests (2,000 cycles) show no detachment with 94.3% residual tension, far surpassing standard nuts. Analysis confirms no self-rotation, achieving "never-loosening" bolt-nut combos with simple nut replacement.



Japanese Fuji Seira Company has unveiled the globally pioneering trademark-registered (No. 5757876) "Seal Up® Screw," featuring a large-contact-area flat sealing gasket automatically embedded in the seat's annular groove. This dramatically enhances waterproofing, oil-proofing, and dust-proofing performance. Simply

replace the screw to use immediately on existing equipment—no hole modifications needed. Key advantages include no gasket detachment: the inner thread diameter is smaller than the outer thread diameter for secure fixation. The gasket offers high adhesion volume for superior waterproofing. Even with larger pilot holes in workpieces (standard: nominal thread diameter +0.5mm Max.), it reliably compresses and deforms, enabling easy screw swaps. Performance rigorously verified: tightened in a sealed fixture under 115MPa water pressure (equivalent to 11,000m depth), confirming no leaks; withstands Mariana Trench pressure (10,994m depth), the world's deepest. Ideal for marine engineering, high-pressure environments, or precision machinery. Fuji Seira announces the addition of the Hex Socket Bolt "Seal Up Cap" variant to the series, enhancing sealing for hex socket bolts.

### World's First "Seal Up® Screw" with New Hex Socket Bolt "Seal Up Cap" Variant



### Japan's First "N Valve Titanium" Titanium High-Pressure Blind Rivet



Nissen Corporation introduces the domestically pioneering titanium high-pressure blind rivet "N Valve Titanium", designed specifically for ultra-thin titanium sheets. Featuring a large-diameter back-side buckling structure, it effectively grips the parent material and significantly boosts bonding strength! Ideal not only for titanium-to-titanium joining but also for areas demanding superior corrosion resistance, fully leveraging titanium's lightweight and durable advantages.

**Tailored for titanium's common ultra-thin sheets, it employs a large back-side buckling shape to dramatically enhance thin-sheet joint performance.** Perfect for lightweight vehicles, flying objects, aerospace fields, or medical devices, chemical equipment, and plant facilities that capitalize on titanium properties.

#### Key Features:

Japan's First: Titanium high-pressure blind rivet, filling a market gap.

Large Back-Side Buckling Diameter: Especially effective for thin titanium sheets, with markedly improved bonding strength.

Pure Titanium Material: Maximizes titanium's lightweight, high corrosion resistance, and biocompatibility advantages.

The product pioneers new possibilities in high-spec titanium applications, advancing lightweight durability in aerospace, medical, and other cutting-edge sectors.

### Shokue Pen Marker for Bolt Management

In the field of industrial equipment and machinery maintenance, bolt looseness inspection and position marking have always been crucial for ensuring safe operation. **The industrial marker pen Shokue Pen, recently launched by Nejiya (Japan), enables workers to instantly determine if a bolt has loosened through clear markings.** During routine patrols, simply checking if the mark has shifted allows quick assessment of equipment status, significantly reducing inspection time and the risk of human error.

Additionally, during equipment repair or disassembly, the product serves as an alignment marker, helping technicians accurately realign to original positions during reassembly and ensuring the mechanism returns to its correct state. It is also suitable for confirmation marking after inspections or verifications, allowing subsequent personnel to clearly identify finished work areas.

In terms of specifications, the Shokue Pen features white ink for clear, conspicuous markings on various metal surfaces. It withstands temperatures up to 250°C, making it ideal for high-heat operating environments without degrading due to heat exposure. The pen tip produces a line width of about 2 mm, balancing precision and visibility for marking small bolts and parts. ■

