

Renewable Energy

PRODUCT BROCHURE

2015 EDITION

Innovative Solutions

Richards MANUFACTURING CO.

Many reasons to make Richards a part of your renewable-energy system …

- **Testing that exceeds industry standards and results in dependable products you can trust**

  IEEE 386 specification requires separable insulated connectors to be subjected to two out of three standardized tests — the mandatory partial discharge test, and either AC withstand or impulse test. Richards performs all three tests on every single product that we produce. We take every possible step to maintain supreme quality control. In addition, our products are designed to withstand a 200kV BIL impulse test — a higher standard which also significantly lessens the possibility of a performance issue in the field.

- **Innovative design that yields more reliable and easier installations at a lower cost**

  The alternative-energy business is seeing rapid growth, but is at the mercy of utility connectors that have been around for decades without much innovation. The Richards R-Stack, however, shatters the status quo by combining the 600A 35kV Connecting Plug and Elbow into one solid unit.

  Molded as one piece, the R-Stack saves you valuable space in the cabinet, cuts down the installation time, and provides more reliability by reducing both the chance of cross-threading and contamination of the interface during installation.

- **Unique products that eliminate guesswork and reduce chance of failure**

  Richards Shear Bolt Lugs ensure that the proper amount of torque is applied during installation. You'll never have to worry about crimping the lug correctly again when you use our Shear Bolt Lugs. By eliminating variables and creating a more controlled environment for your installations, you reduce the chance of failure.



What we've done for the utility industry, we can do for you.

Richards Manufacturing has been a reliable manufacturer of electrical distribution and transmission products for over 65 years … and we are proud to extend this tradition of dependability to the renewable-energy industry.

All Richards products are designed, manufactured and tested to outperform competitive products. For you, this translates into easier and safer installations … reduced costs … and overall peace of mind — all of which combined, allow you to focus on the other important aspects of your renewable-energy operation.



RENEWABLE-ENERGY PRODUCTS AVAILABLE FROM RICHARDS ...





35kV Disconnectable Bolted Splices



600/900A Deadbreak Elbow

600A/900A Deadbreak Elbow Connectors and Accessories from Richards Manufacturing provide an easy, modular way to terminate cables and equipment at 35kV (also available in 15/25kV). The Elbow is fully shielded and features a bolted connection in either aluminum (600A) or copper (900A). Accessories are available for insulating, testing, grounding, and circuit expansion.

35kV Disconnectable Bolted Splices

Offering convenience and allowing for easy system expansion, our splices are an invaluable addition to renewable-energy systems. They provide maximum reliability while leaving the circuit expandable. A Richards Y-joint (2 inputs, 1 output), for example, allows for a tap from the circuit to feed adjacent turbines. If another turbine is added, or the line needs to be grounded, accessories are available.

35kV 600A Arrester

The all-new Richards 35kV 600A Surge Arrester protects renewable-energy system equipment. Unlike arresters that have a 200A tap, the Richards 35kV Arrester is built for a more robust bolted connection and requires no extra, time-consuming step to convert to 600A. It's engineered specifically for 600A connections and is fully compatible, as per IEEE 386, with competitors' components.

35kV R-Stack

The 35kV R-Stack is the perfect solution to many industry-wide issues with Medium Voltage circuit construction. The R-Stack interface combines two units into one, eliminating the need for installing a connecting plug. By reducing the number of components and steps required for installation, this design reduces the risk of complications (such as cross-threading) during assembly in the field. Also, with fewer installation steps, the R-Stack saves you valuable time. Total assembly force for the R-Stack is only 25 lbs., as opposed to the 100 lb. force required to install a standard connecting plug. In addition, the unwieldy traditional spanner and torque wrenches are no longer needed for the installation. All that's required is a single installation tool (included with each kit). Its compact design reduces the stack height of the installation (making it invaluable in small cabinets and manholes) and puts less cantilever force on the delicate transformer bushings.

Copper and Aluminum Compression Connectors

Richards offers a wide variety of copper and aluminum compression connectors — everything from Oil-Stop Tapered Copper Compression Splices to 4-Hole NEMA Aluminum Lugs. And, if you need the current-carrying capacity that's required to extend the range of your renewable-energy setup, Richards offers connectors as large as 1500 kcmil (and larger).

Junctions

Our junctions are commonly used in renewable-energy applications as a node to connect equipment. They are available in aluminum (600A) or copper (900A) and in 2-way, 3-way and 4-way configurations. Contact the factory for other configurations.

We do more testing than industry standards require. IEEE 386 requires either impulse or AC Withstand. We run BOTH on all of our products. For additional details about any of these products, please consult our Medium Voltage Product Catalog. For a free copy, contact us today.

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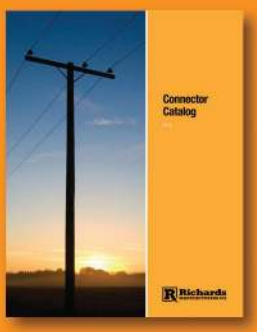
Trust Richards Manufacturing for all your utility needs.

Richards has proudly served the utility industry since 1945, earning the respect of customers and competitors alike.

To have remained successful after all these years, in a demanding and competitive industry, is no simple task. It takes a lot of hard work, starting with our CEO, who oversees operations everyday … and finishing with the individuals on the production lines, who carefully craft every Richards product. They all share one common focus: satisfying the needs of you, our customer. You want reliability — we manufacture top-quality products that exceed your expectations. You want flexibility — Richards designs, manufactures, and tests many nonstandard and specialty products to meet our customers' requirements. Most of all, you want a trusted partner and you can always rely on Richards to assist you with any problem or emergency in the field.

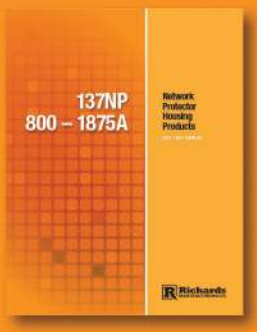
Above ground, below ground — from the poles right up to the customer's meter — we've got you connected.













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