Standex Electronics

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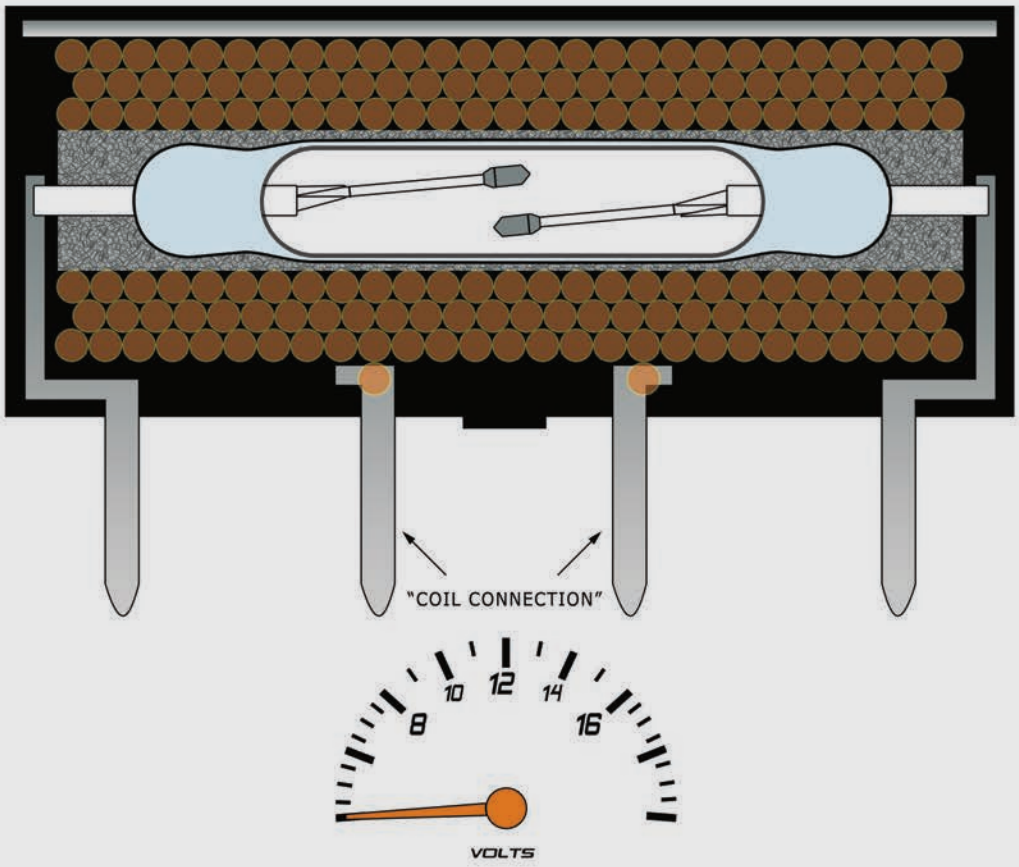
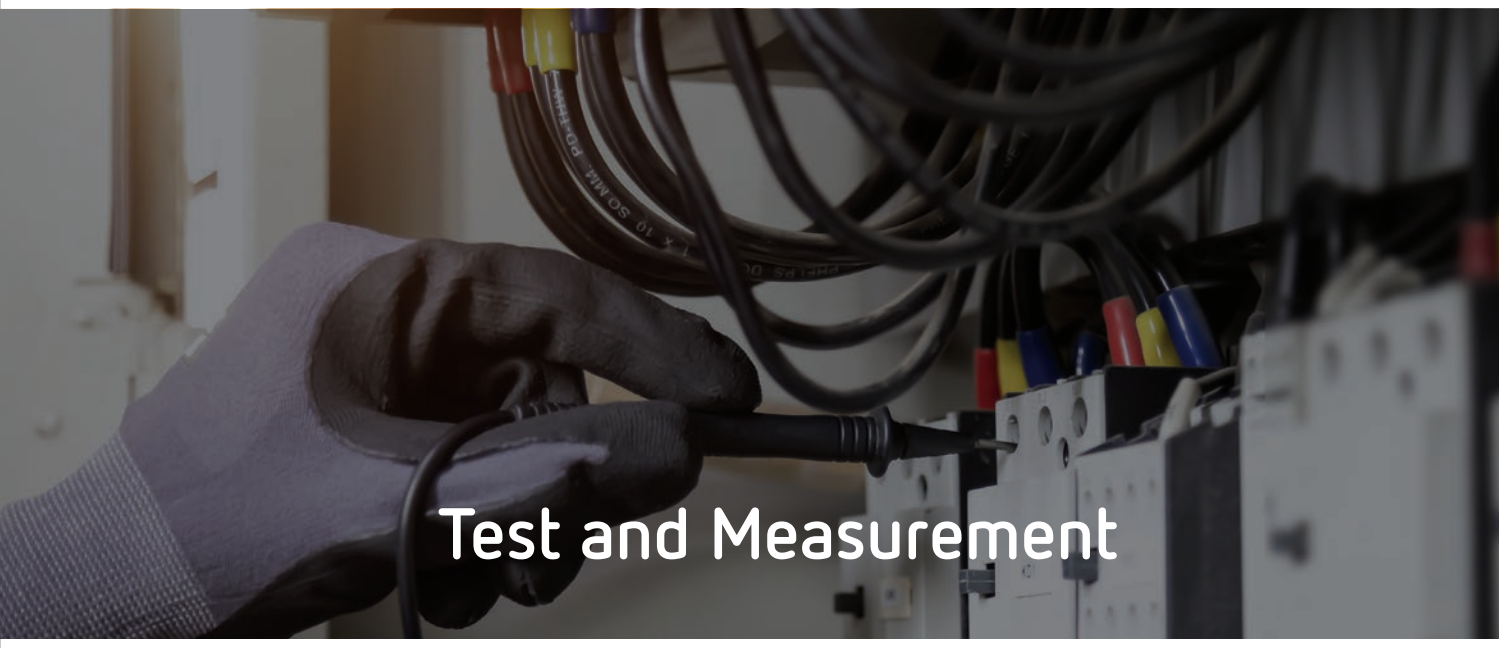
Tackling The Problem Head-On

Standex Electronics Steps Up To Meet A New Peak Need



Reed relays have numerous traits that are valuable for test and measurement: very high off resistance, very low on resistance, very high isolation resistance, high breakdown voltage, and the ability to reliably switch micro to medium loads. Even so, requirements for new applications can exceed the current state-of-the-art.



Test and Measurement

One such new test-and-measurement application needed a very high voltage relay in a small package size: 5 kV AC (7kV peak) one minute withstand voltage in a 30 mm long reed relay. The application is testing the insulation characteristics of electrical components. The relay and other components inside the test equipment must by necessity exceed the electrical specifications of the components being tested.

The test equipment measures partial discharge – intermittent short-duration breakdown events that are a precursor to catastrophic voltage breakdown. Testing for partial discharge can detect a pending failure before the failure occurs. Alternating current (AC) is used by the test equipment because the resulting varying electric field in the insulation layer of the device-under-test promotes partial discharge. The high sensitivity to short-duration events and the use of AC demanded a higher level of reed relay performance than ever before: higher dielectric strength, higher insulation resistance, higher isolation voltage, and no partial discharge.

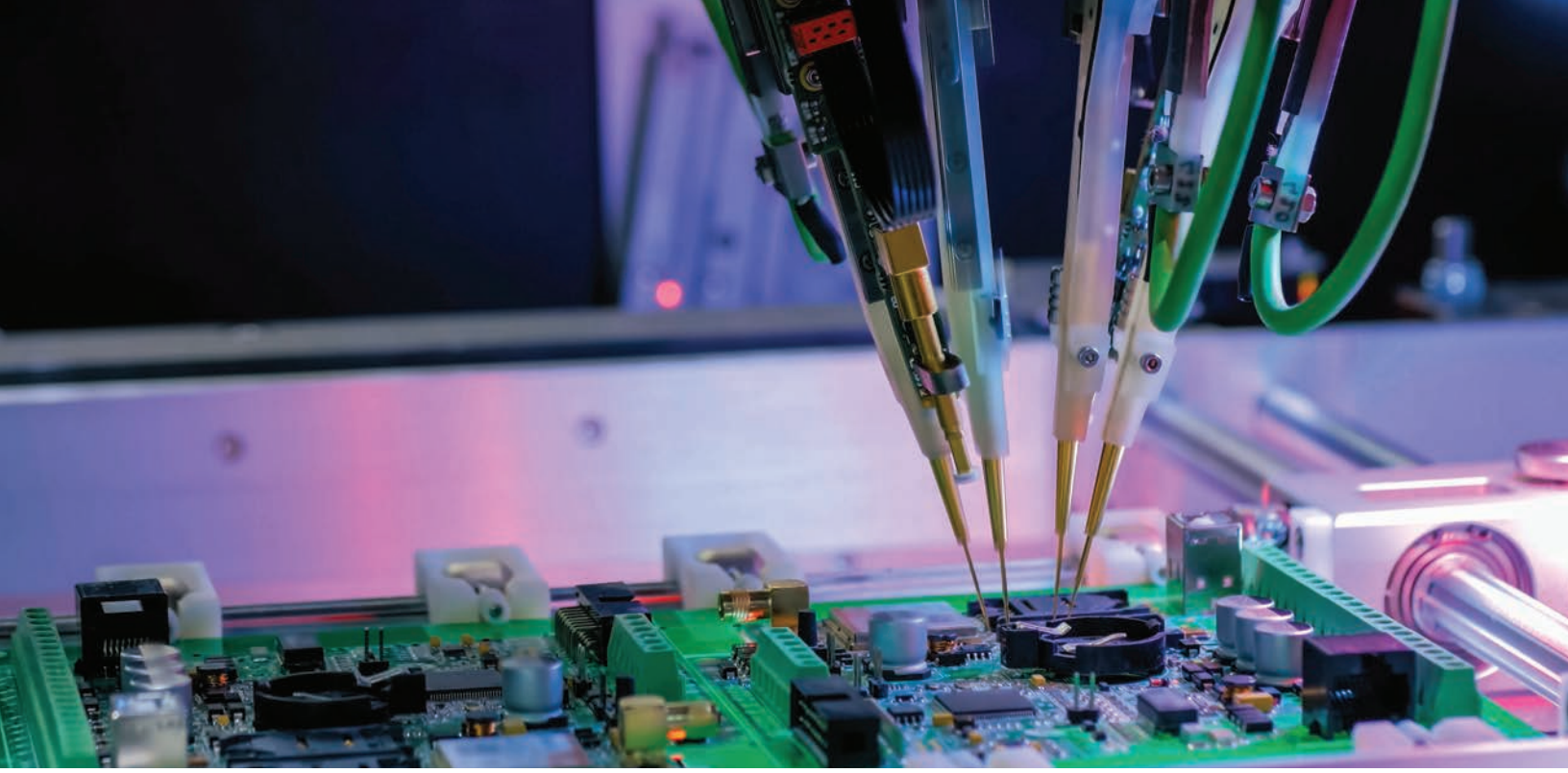
Key Support

Standex Electronics stepped up to meet the challenge that no other company could meet. The new reed relay included two reed switches internally connected in series. This new reed relay had the same number of terminals and a similar size as earlier relays. The internal structure was more complicated, but the relay was just as easy to use as relays with just one switch.

One of a Kind

A standard reed relay with two reed switches connected in series inside the relay is not something offered by any relay supplier. Two reed switches in a standard reed relay is common, but for this high-voltage application the series connection would need to be done on the circuit board where creepage distance requirements would likely be an issue. Connecting the switches in series internal to the relay makes the relay a little harder to make but much easier to use. All requirements were met using a relatively small package. Standex always works closely and diligently to provide what is needed and wanted.

Working with Standex is like working with a small company, but with the technical and financial resources of a large company. A small team was assembled to work with the test equipment manufacturer, understand their needs, propose solutions, and provide support from samples to testing to manufacturing. Simultaneously, the economies of scale, global footprint and support services of a large company are available. It's always a win-win.



Standex Electronics has a commitment to absolute customer satisfaction through a partner, solve, and deliver® approach. With a global organization that offers sales support, engineering capabilities, and technical resources worldwide – we implement customer-driven innovation that puts the customer first.

If your application requires one of the standard sensors or relays from our catalog, that's clearly the best approach and the quickest solution to satisfying your design requirement. However, more than half of our shipped sensors and relays are from special requirements. Since many switching and sensing requirements are unique, working with customers on their special applications is expected.

Because at Standex, "custom is standard."

Scan for more information on
Test & Measurement applications.

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