

Refrigerator Manufacturer Innovates with Collaborative Sensor Design

**Household &
Appliance Design**



Reed sensors are a great fit for large and small appliances. They are rugged and versatile; they use only two wires; and they sense moving parts without physical contact.

Consider the recent experience of a refrigerator manufacturer. In addition to traditional swing-open doors, their latest refrigerator also had sliding drawers. The appliance needed to sense when the drawers were open so it could turn off the cooling system.



The Challenge



To meet the challenge, the manufacturer's design team worked closely with Standex Electronics to define the problem, propose possible solutions, test prototypes, and implement the best solution. While the refrigerator manufacturer provided product knowledge and requirements, Standex provided sensing and packaging expertise. Important considerations included:

- The type, shape and size of the activating magnet,
- The orientation of the magnet to the reed sensor,
- The materials and mounting methods of the sensor package, and
- The implementation of electrical connections in the sensor package.

Collaboratively evaluating these competing tradeoffs resulted in a highly optimized sensor product. The design process itself was also highly optimized. Attention to detail, a close working relationship, and rapid turnaround of prototypes were key to quick and thorough resolution of issues.

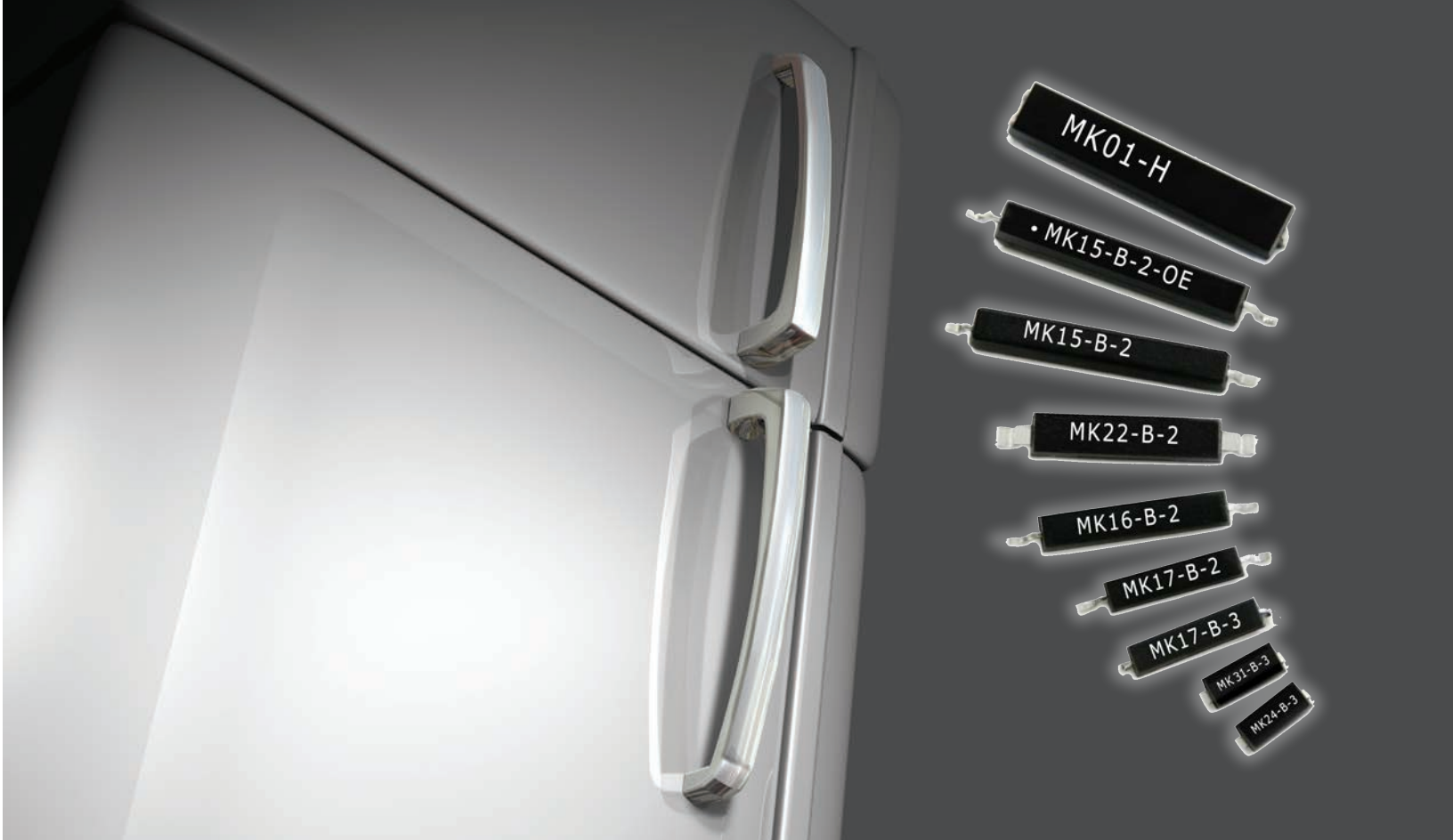
Success

The final result was a Standex-designed sensor with a custom housing and an integrated connector. In addition to meeting the baseline sensing requirements, the design easily met all the mechanical and electrical requirements. Plus, the reed sensor's hermetically sealed construction contributed to its reliability in the cold and wet environment.

Key Support

Of course, a good design is only the first step in a successful product launch. Scaling to meet to demand is also critical. In this instance, Standex leveraged our global supply chain and extensive internal manufacturing capacity to ramp production as demand increased.

The reed switch at the heart of the sensor and the final assembly of the reed sensor are both manufactured internally by Standex. This high degree of vertical integration helps improve quality and reduce costs.



Partnership

This long-term partnership—from the first steps of design to volume production—provides extra value to both companies. In this case, the refrigerator manufacturer's design team had worked with Standex on previous projects with positive results, establishing trust and accelerating the design process. We are excited to see what they do next!



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