

MANUFACTURING OUTLOOK



Certificate



Hasco Relays & Electronics Int'l Corp.

Precision Relay Manufacturing Across Industrial Verticals

Milton Navarro first approached Hasco Relays as a customer after working through multiple relay suppliers without finding a workable solution. At the time, he was a design engineer at a commercial refrigeration manufacturer developing a new controller that required a single relay capable of handling several electrical conditions within one device. The system had to manage an inductive compressor load, a resistive heating element and a cycling fan system within the same application. Components from several manufacturers failed to perform under that combined load.

Instead of recommending a catalog part, Hasco Relays sent engineers to the facility to observe how the system behaved in operation. They reviewed the controller design, examined compressor start-up behavior, heating loads and fan switching patterns, and designed a relay around those conditions. Within weeks, the company returned with a solution that allowed the controller to remain intact without dividing electrical functions across multiple components.

More than twenty years later, that refrigeration manufacturer remains one of Hasco Relays' largest customers worldwide. Navarro later joined Hasco and now serves as its CTO. The same approach he encountered as a customer continues to define how relay applications are handled, beginning with load conditions and ending with a design built around them.

"Every application is unique. Hasco listens, understands the load characteristics and delivers a relay built around it, not around what's on the shelf," says Navarro.

Designing Around Load Conditions

Relay design begins with understanding the electrical and mechanical conditions the device must withstand in operation. Compressor systems impose inductive loads that behave differently from control circuits switching continuously at low current. Automotive environments introduce vibration and temperature variation, while power infrastructure requires high-amperage switching and reliable electrical isolation.

These conditions determine the relay's internal structure. Contact materials must withstand electrical stress, while switching geometry defines how contacts separate under load. Together, they determine whether a relay welds, arcs prematurely or performs reliably across

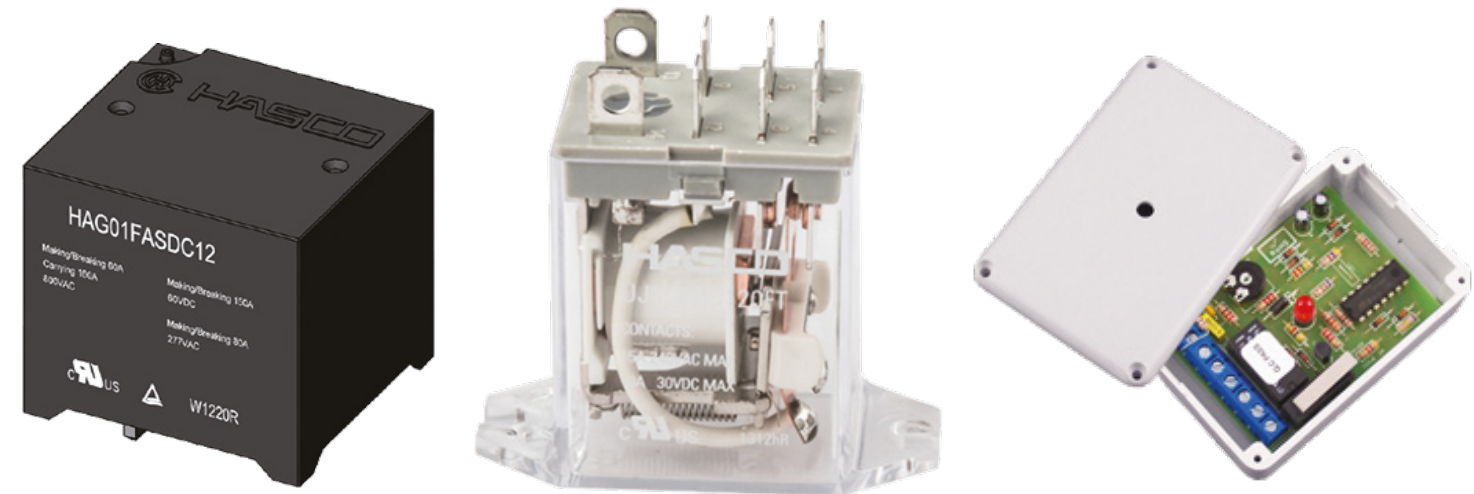
thousands of cycles. Engineers work directly with customers to evaluate these load characteristics before finalizing the design.



This work spans applications in automotive, fire and safety systems, telecommunications, lighting control, HVAC, industrial controls and uninterruptible power supply infrastructure, where each environment introduces different electrical and mechanical constraints.

Production Readiness and Delivery Visibility

For OEM manufacturers operating with lean inventories, reliability also depends on availability. When relays are delayed or unavailable, production lines stop.



Hasco Relays addresses this through forecast-based manufacturing planning. The company works with customers and sales partners to anticipate demand before purchase orders arrive, allowing production and inventory to be positioned in advance. Orders are tracked from acknowledgment through delivery, so customers have visibility into schedules.

Automation supports this model by allowing production to scale as demand increases while maintaining consistency, enabling delivery commitments to be met without disruption.

Pricing pressure remains a constant in the relay market, particularly from offshore suppliers offering lower-cost components. For standard applications, cost may determine the decision. Where multiple load conditions must be handled within a single device, performance depends on how precisely the relay is designed for those conditions, making engineering involvement a necessary part of the decision.

Expanding Into Electrification and Medical Systems

New applications are increasing the demands placed on relay performance. Electric vehicle charging infrastructure requires high-amperage switching and reliable electrical isolation for DC systems. Medical devices, including life-safety equipment such as defibrillators, require consistent performance under strict reliability standards, with IEC60601-2-4 for medical devices.

These applications follow the same pattern as the refrigeration case—understanding load conditions, designing for them and validating performance under those conditions. As requirements become more exacting, the margin for error narrows.

After nearly five decades in operation, Hasco Relays continues to operate on that principle. Designing a relay

around real operating conditions, rather than selecting one from a catalog, remains the difference between components that function in theory and those that perform reliably in application.



Every application is unique. We listen, understand the load and deliver a relay built around it, not around what's on the shelf.

"Reaching our 50-year milestone is a significant achievement and a reflection of the trust our customers and partners have placed in Hasco over the years," says Martin Hauser, Chairman. "Our success has always been driven by a commitment to quality products, competitive pricing, responsive service and close collaboration with our customers."

"While we are proud of our history, we are equally focused on the future," added Navarro. "As technology and market needs evolve, Hasco remains committed to supporting its customers with reliable solutions and the same values that have guided us for the past 50 years." 