

From frying oil to coupling relays: Siemens and Envalior collaborate on more sustainable electrical products

- **Siemens launches new SIRIUS 3RQ4 coupling relay with three versatile variants for a wide range of industrial requirements**
- **Ideal for use in combination with Siemens controllers**
- **Bio-based, halogen-free, flame-retardant Akulon® K225-KS B-MB plastic from Envalior offers high heat and excellent chemical resistance**

Siemens Smart Infrastructure has launched a new series of coupling relays, with housing made from plastic that consists of 70 percent bio-based material - derived from biomass waste. The Akulon® K225-KS B-MB plastic was developed by Envalior, a world leader in a wide range of industries by designing and developing high-quality sustainable solutions, in collaboration with Siemens to ensure all the desired properties are met. The plastic's raw material comes from used cooking oil (UCO), left over after frying in the food industry, restaurants, snack bars and households. As UCO is no longer suitable for human or animal consumption, it does not compete with food or animal feed production. While UCO is mainly used for biodiesel, Envalior uses it for the production of engineering plastics based on a mass balance concept, avoiding incineration. Envalior is a global supplier of high-performance engineering materials.

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“Collaborating with Envalior to create this bio-based plastic is an important step towards advancing the use of more sustainable materials in our electrical products. We are pleased to work with Envalior as another strong partner on our journey towards a more environmentally friendly portfolio,” says Andreas Matthé, CEO of Electrical Products at Siemens Smart Infrastructure.

The new SIRIUS 3RQ4 coupling relay comes in three versatile variants for a wide range of industrial requirements.

The first variant with integral relay output is specially designed for harsh environmental conditions, as well as for areas with specific safety requirements. These relays have safety-ready characteristic values (B10d values) and are also approved for use in potentially explosive atmospheres (ATEX-certified). This variant is optionally available with gold-plated contact elements for switching very low currents, or with printed circuit boards with a protective coating, which are suited for railway applications.

As a second variant, plug-in coupling relays are available for applications that require quick relay replacement during operation. They are also available as an option with gold-plated contacts.

For applications requiring very fast, soundless and frequent switching, Siemens offers a third variant with semiconductor output. As it has a virtually infinite service life, it is used where replacing conventional relays can be expensive and time-consuming. Siemens has been able to increase the switching capacity of these semiconductor variants to up to 6A, enabling them to match the performance of conventional elementary relays.

The SIRIUS 3RQ4 coupling relays are designed for more sustainability throughout their entire lifecycle, from development to the end of service life and meet the strict criteria of the Siemens EcoTech label. This includes 33 percent lower energy losses

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in the semiconductor variant compared to previous versions as well as eliminating problematic materials such as halogens or PFAS. In addition, the product can be easily dismantled and recycled at the end of its life. Envalior's Akulon® K225-KS B-MB, a bio-based, halogen-free, flame-retardant polyamide 6 grade plastic for injection molding, is the ideal choice for these coupling relays. This more sustainable material is characterized by a significantly improved environmental profile, high heat resistance, and excellent chemical resistance and is used in many electrical engineering and power distribution applications. "At Envalior, we are proud to have partnered with Siemens in the development of the SIRIUS 3RQ4 coupling relay series. A key success factor in this project was achieving excellent flow behavior in thin-wall designs and a UL94 V-0 rating at just 0.4 mm thickness, while simultaneously achieving an outstanding green share from bio-waste sources but at prime quality," says Dr. Marc Rudolf, Global Key Account Manager, Envalior.

The new SIRIUS 3RQ4 coupling relays have a space-saving slim-line design for optimized use in control cabinets. They have been designed and intensively tested for use in combination with Siemens controllers. Their fully automated production at the Siemens plant in Amberg shortens the supply chain in the German and European markets. The coupling relays are shipped in more sustainable cardboard boxes in standard multi-piece packaging. The operating instructions and all relevant information can be accessed electronically from an ID link on the device.

In addition to the manufacture of bio-based products, Envalior also focuses on renewable energies. In 2024, Envalior covered over 50 percent of its global electricity needs with renewable energies. By 2030, Envalior aims to reduce emissions by another 35 percent. This will be achieved through a variety of measures, including expanding renewable energies to 100 percent by 2030, implementing local emission reduction initiatives, and switching to climate-friendly heat sources. Envalior invests in renewable energies close to its production sites around the world.

This press release as well as press pictures are available [here](#).

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings, and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions, and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. To protect this journey, we foster holistic cybersecurity to ensure secure and reliable operations. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland. As of September 30, 2024, the business had around 78,500 employees worldwide.

Siemens AG (Berlin and Munich) is a leading technology company focused on industry, infrastructure, mobility, and healthcare. The company's purpose is to create technology to transform the everyday, for everyone. By combining the real and the digital worlds, Siemens empowers customers to accelerate their digital and sustainability transformations, making factories more efficient, cities more livable, and transportation more sustainable. A leader in industrial AI, Siemens leverages its deep domain know-how to apply AI – including generative AI – to real-world applications, making AI accessible and impactful for customers across diverse industries. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a leading global medical technology provider pioneering breakthroughs in healthcare. For everyone. Everywhere. Sustainably.

In fiscal 2024, which ended on September 30, 2024, the Siemens Group generated revenue of €75.9 billion and net income of €9.0 billion. As of September 30, 2024, the company employed around 312,000 people worldwide on the basis of continuing operations. Further information is available on the Internet at www.siemens.com.

About Envalior

Envalior is a global leader in Engineering Materials with over 4,000 employees worldwide. It was established in 2023 through the merger of Lanxess Performance Materials and DSM Engineering Materials. With a long track record of

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Joint Press Release
By Siemens and Envalior

customer-driven innovation, Envalior specializes in developing Sustainable and High-Performance Engineering Materials, including PA6, PA66, PBT, PA46, PPS, TPC, PET, PA4T, PA410, and Thermoplastic Composites. Focus markets include Mobility, Electronics & Electrical, and Consumer Goods. For more information, visit www.envalior.com

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