SIEMENS

Press

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Siemens launches world's first heavy duty direct current contactor for up to 1500 V

- **Innovative hybrid technology combines semiconductors and mechanics**
- **Wear-free electronic switching of up to 1,500 V and 600 A**
- **Complements Siemens' comprehensive direct current portfolio**
- **Ideal for switching in energy storage, e-mobility charging, PV and marine applications**

Siemens is expanding its direct current (DC) portfolio with the world's first semiconductor-based heavy duty DC contactor for high DC currents up to 600 A and voltages up to 1,500 V. The new SIRIUS 3QC1 contactor enables galvanic isolation, and reliable and wear-free switching of high DC loads through innovative semiconductor technology. The enlarged portfolio allows customers to more quickly adopt DC grids.

DC systems offer significant advantages, including up to 8 percent energy savings by reducing AC-DC conversions and enabling direct renewable energy and battery storage integration. They can also save up to 50 percent on materials due to reduced cross-section of cables and the need for fewer conductors and components.

The heavy duty DC contactor combines the advantages of semiconductors and mechanical contacts: the semiconductors handle the actual switching process precisely and wear-free, preventing any arcing. During operation, the mechanical contacts are closed and ensure low-loss current conduction. This combination leads to exceptional durability of at least 150,000 switching cycles. The mechanical

Siemens AG
Marketing & Communications
Head: Christiane Ribeiro

Werner-von-Siemens-Strasse 1
80333 Munich
Germany

contacts also ensure galvanic isolation for maximum reliable interruption of the conducting path.

"The shift to direct current is a gamechanger for energy efficiency and the integration of renewables. Our new DC contactor is a crucial building block in this transformation, making sustainable power practical and scalable. It’s a prime example of how Siemens’ innovations are accelerating the energy transition and paving the way for a more decarbonized world," said Markus Grabmeier, President Electrical Products at Siemens AG.

A key feature of the SIRIUS 3QC1 is its bidirectionality, which allows it to switch independently of the current’s direction. This makes it the ideal solution for applications involving charging and discharging processes, such as battery energy storage systems (BESS). These BESS facilities can utilize heavy duty DC contactors in standard power racks (100 kW) and high-power racks (up to 375 kW / 300 A at 1,500 V). In e-mobility, they support megawatt fast-charging stations for fleets, e-trucks, and e-buses, with power ratings up to 1,000 kW. The technology is also suitable for marine applications, specifically on ships. Furthermore, it can be used in industrial DC microgrids to couple PV and storage, thereby maximizing independence from AC grid failures.

With the SIRIUS 3QC1 contactor, Siemens offers a simple, cost-effective, compact and familiar design featuring a contactor and a fuse. This solution provides low initial investment costs, and due to the robustness achieved through wear-free switching, the device is durable and maintenance-free, thereby reducing the plant's maintenance costs. The DC contactor is also remotely switchable, increasing operational convenience and eliminating the need for manual on-site intervention.

The SIRIUS 3QC1 heavy duty DC contactor will be available in several current ratings: 300 A, 400 A, 500 A, and 600 A. It will operate with a control voltage of 24 V DC and can function at extreme temperatures, from -25 °C to +60 °C, with up to 95 percent humidity. Its compact design includes an integrated display with status and condition LEDs.

The new heavy duty DC contactor will be presented to the public for the first time at the Smart Production Solutions (SPS) trade fair held from November 24 to 26, 2026 in Nuremberg, Germany. The Siemens booth will be in Hall 11.

This press release as well as press pictures are available here.

For more information on the SIRIUS 3QC1 heavy duty DC contactor, please see here.

For more information on Siemens´ low-voltage DC portfolio, please see here.

Contact for journalists
Siemens Smart Infrastructure
Christian Wilson
Phone: +49 172 138 5608; Email: christian_stuart.wilson@siemens.com

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With deep domain know-how, industrial data and a full technology stack spanning electrification, automation, digitalization and AI, Siemens redefines how real-world systems are designed, built and operated. This helps customers become more competitive, resilient and sustainable.
In fiscal 2026, the Siemens Group generated revenue of €83.4 billion and net income of €9.5 billion, with around 319,000 people employed worldwide as of September 30, 2026.
Siemens also holds a majority stake in the publicly listed medical technology company Siemens Healthineers.
More information: www.siemens.com.